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THE AMERICAN BEE JOURNAL

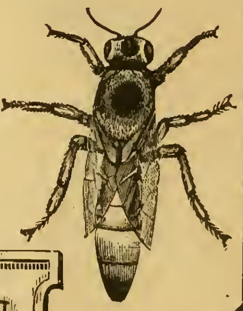
DEVOTED EXCLUSIVELY TO BEE CULTURE

Established in 1861, at Washington, by the late Samuel Wagner.

THE DEAD BEE.

"Where honeysuckles scent the way,
I heard thee humming yesterday;
Thy little life was not in vain,
It gathered sweets from other's gain,
And somewhere in a dainty cell
Is stored delicious hydromel.
O poet! in thy calm retreat,
From joy and grief extracting sweet,
Some day thy fancy's wings must fold
And thou lie motionless and cold.
Perhaps thy garnered honey then
May be the food of living men."
Scribner's Monthly.

VOLUME XV.--1879.



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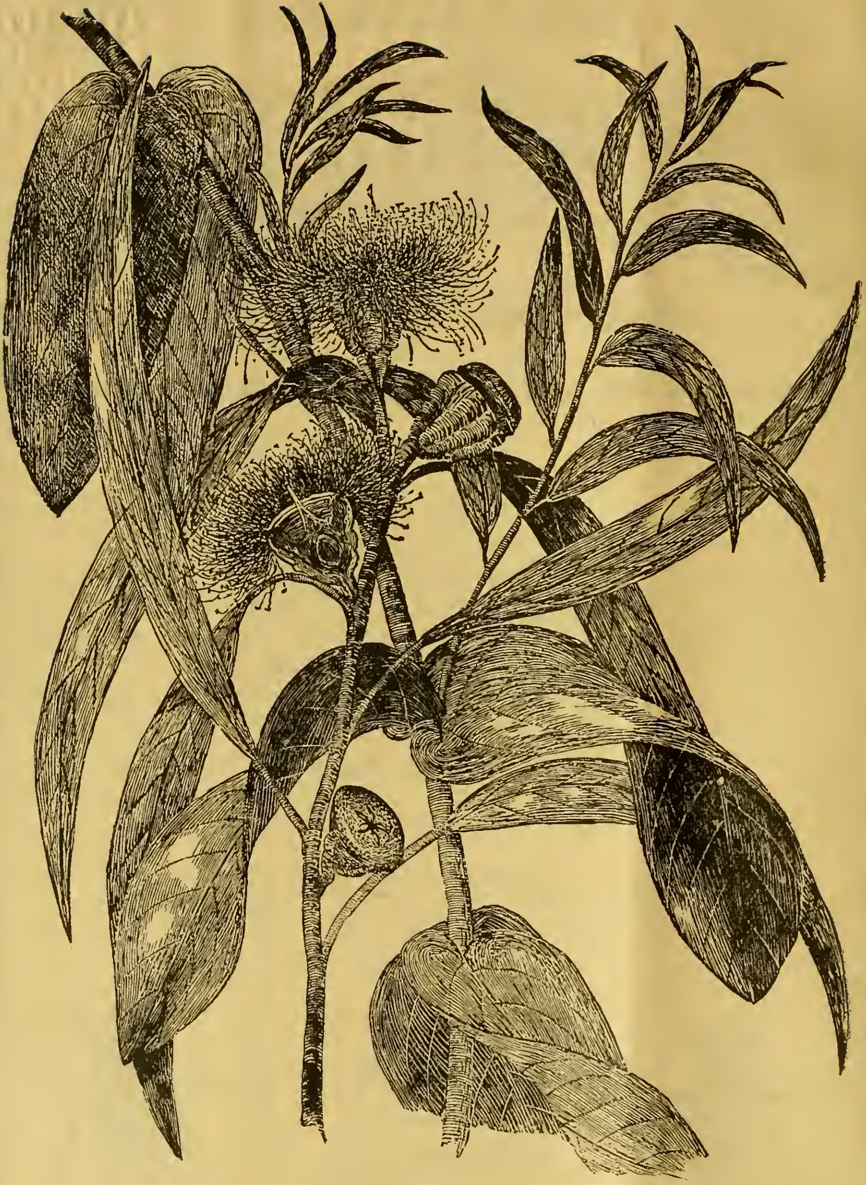
THOMAS G. NEWMAN AND SON,
PUBLISHERS.



Leaves and Blossoms of Australian Blue Gum (*Eucalyptus Globulus*).

THE AMERICAN BEE JOURNAL

Devoted Exclusively to Bee Culture.

VOL. XV. CHICAGO, ILLINOIS, JANUARY, 1879. NO. 1.

Editor's Table.

THE AMERICAN BEE JOURNAL presents its compliments to all its readers and correspondents—wishing them a "Happy New Year," as well as general prosperity through all the days and months thereof.

◆

WE have re-arranged our departments for 1879, and as we shall have all the Indexes at the end of the volume, hereafter, the title page is presented in this number in proper place for binding.

◆

E. L. ROBERTS, of Eagle Mills, N. Y., has sent us a photograph of his new Octagon Bee-Hive. It is peculiar and odd-looking, but would be very attractive in a Bee and Honey Show.

◆

PRESIDENT CHANDLER, of the New York board of health, reports to the chamber of commerce on the subject of sugar adulterations: "We have carefully examined a number of samples of the refined 'coffee' and 'yellow' sugars. In several of these sugars we have found tin salts and free acids, probably muriatic, and in two of them considerable glucose. These are used solely for the purpose of defrauding the consumer by deceiving him as to the grade of the sugar. In some cases the quantity added may be sufficient to cause a derangement of the system. I would recommend that the sanitary superintendent be directed to cause analyses to be made from time to time of the sugars and the syrups sold in the city."

FULLY ENDORSED.—It is exceedingly gratifying to the AMERICAN BEE JOURNAL to begin the new year, under such auspicious circumstances. Besides the renewal of nearly all of its old patrons, nearly five hundred new subscribers have been enrolled during the past month! This success is unparalled! But pleasing as this may be, still more agreeable is the unanimous endorsement, so spontaneously expressed, of the policy of the JOURNAL during the past year! The hosts of new readers already enrolled are a surprise to us—an agreeable one, to be sure—but no less unexpected! While making our bow to all—we gird on anew the armor for the contests of 1879.

◆

THE Rev. W. F. Clarke, late editor of this JOURNAL, is now delivering a series of agricultural lectures in Canada. One on "The Nobility of Agriculture," and another entitled "My Farm at Lindenbank," have been published, and are on our table. We have perused them with much pleasure. Mr. C. handles these subjects in a very interesting manner, and we are not surprised to learn that his audiences are delighted. The following is Mr. Clarke's opinion of the AMERICAN BEE JOURNAL:

> I am glad to see that the AMERICAN BEE JOURNAL is going on well. You are certainly doing your part most creditably, and deserve a remunerative success. Typographically it is an honor to the craft, and editorially, it could not be better managed. I got started again this past season. Next summer if all be well, I propose to go at bee-keeping in right earnest.

◆

OUR Table of Contents will hereafter be found in the Business Department.

The Eucalyptus as a Honey Tree.—The engraving on the back of the title page, in this issue, shows the bloom, leaves, &c., of the honey-producing tree called the "Eucalyptus globulus" or Australian blue gum. It has two styles of foliage, the earliest being the wide leaves, and the subsequent being the long narrow pointed leaves. The engraving is from the "Pacific Rural Press," of California, which also contains an article descriptive of this tree, from which we condense the following:

> About the center of the engraving is the seed capsule, one-half cut away, so that its internal structure appears; and lower down is one of the capsules turned so that one can look into its capacious cup.
>
> The different varieties of the gum, bloom at times when all other kinds of flowers are out of season, and the more so during a dry year when the crop of honey-bearing annuals is cut off. The *Eucalyptus globulus* commences to yield nectar here about the middle of December, and continues to do so for about five months. During that time the bees seem almost to swarm upon it.
>
> Not only do bees find "pastures new and fresh" in this tree, but ants and butterflies participate in the grand open-air banquet. Birds also find an agreeable shelter in its pendant branches.
>
> The second variety of eucalypti to be considered, is what is known as *rostrata* or *viminalis*, or more commonly called red gum. This blooms from August 15th to about December 20th. It is undoubtedly the most important, for it comes in at a time when other flowers are scarce. The bee finds abundant nectar in its flowers to keep them from starvation. The tree is of rapid growth; flowers small and numerous.
>
> The honey obtained from the eucalyptus is highly aromatic, and is said by trustworthy persons to possess medicinal virtues. It is dark in color, fragrant and a little peppery to the taste. On the whole it will, for its rich dark color and medicinal properties, always find a ready sale.
>
> Australia furnishes the best illustrations of the great productiveness of the gum as a honey-producer. In that country and adjacent islands there are about 100 spceies of this tree. They constitute 99 per cent of the forest vegetation. The native bees of Australia, as well as the imported, which have multiplied rapidly, take up their abode in the hollow trunks and branches of the trees and gather large quantities of delicious honey from the eucalyptus. A colony never dies there for the want of provisions; there is an unlimited supply always ready to be collected. We know of no tree that yields nectar in greater quantities.
>
> All the bee-bread required for brood-rearing can be obtained from the varieties named. It partakes of the color of the flower and is gathered by the bees in the early part of the day. Bees can be noticed working on this tree at all seasons; even on and after a light shower of rain or when a heavy fog has cleared away, bees can be heard amid its fragrant blossoms.

In a recent comparison of forest giants, a tree of the Eucalyptus species, in Australia, is accredited as the largest in the world, being upward of 460 feet in height, and excelling by nearly a hundred feet the famous monsters of California.

◆

Adulteration. — The "Board of Trade Gazette" informs us that the large lot of honey sent to Liverpool by Thurber & Co., of New York, last November, has been condemned by the British authorities on account of adulteration. Being honey in the comb, the only solution of the difficulty that suggests itself (in the absence of the facts in the case) is the probability that the bees were fed glucose, and that they stored it in the surplus boxes. The "British Bee Journal" seems to have taken this view of the case, and, before the seizure, criticised the matter in the following lauguage:

> "There is, however, no limit to the possible; and it may have happened that the bees gathered the impure honey alluded to, having found it welling, after the manner of petroleum, from a rock, and that everybody was perfectly innocent in respect of adulteration. It is, notwithstanding, known that bees will take the abominable stuff (glucose) when they can get nothing better; and furthermore, if mixed with a little honey and water, that they will take it and store it as if it were genuine nectar, producing honey-comb (or 'comb-honey,' as our American friends prefer to call the *genuine* article) of surpassing beauty!
>
> "Undoubtedly the form of the sections, the mode of putting up, and the general appearance of the goods are all that can be desired, and the contents may be sufficiently palatable to ensure ready sales; but if it is not what is represented, it will be dangerous for our traders to handle."

The honey was valued at about $40,000. We are exceedingly sorry to hear of the seizure, because it practically closes the European ports to American honey. Had the warnings of The American Bee Journal been heeded, this distressing circumstance would never have occurred.

This Journal has argued persistently against the use of glucose for feeding bees. Its voice has been steady against adulteration, in all its forms. It has advised that even comb foundation should not be used in comb honey—and even if it was used for starters, that it should be only of a narrow strip, of about two cells in width, because nothing should be used that would in any way compromise the sale of that delicious article of food. Notwithstanding this advice, some have used half a sheet in surplus boxes, and others have filled the sections full of it! It MAY be that this latter has something to do with the confiscation of that comb honey in Liverpool—we hope not, but fear that it is so.

"THE COMING WAR."—Under this heading, Mr. C. J. Quinby, in the "Bee-Keepers' Magazine" for December, criticises our remarks on page 369, where we referred to Novice's statement that glucose was better than honey for feeding bees, &c. Mr. Quinby states that he uses glucose for feeding bees, and defends the adulteration of honey with glucose, as well as approves the "oleomargarine" butter fraud, and then says:

> "Petitions and acts of Congress will not prevent people from buying glucose honey if they cannot detect it from the simon-pure, and can buy it at half-price."

He then defiantly asks:

> "Now, what are you going to do about it? Glucose honey will be cheap and in great demand."

The British authorities seem to have decided what to do about it! Glucose honey is NOT in great demand there; neither will it be in the United States if Congress does its duty—passing a law similar to the British statute against adulteration!

"What are you going to do about it?" Why, sir, we are going to leave no stone unturned in our endeavor to stop the nefarious business of adulteration! We are going to wage an aggressive war on those who are murdering the bees by feeding them glucose, and poisoning our fellow men by adulterating their honey with the same abominable trash! We are going to secure the conviction of these adulterators when Congress has made the law prayed for—and to this end we pledge our means, our life, and our sacred honor! Aye, and when this is accomplished, we may do as Mr. Q. so tauntingly remarks—Put the seal of the National Convention on all the honey produced, and mark it—Pure!!

UNTESTED QUEENS.—The excellent article read by Prof. Cook before the Michigan Convention, on the production and sale of untested Queens, found on page 34, and the candid article by Mr. James Heddon, on page 13 of this issue of the BEE JOURNAL, will be read with interest. The so-called "Dollar Queen" traffic has produced an abundance of poor, puny, and half-developed bees all over the country, and caused many to prefer the black bees to those produced by such sickly apologies for Italian queens! We do not wonder at sensible men coming to such conclusions. Several queen-breeders have within the past year told us that the race was degenerating, on account of this nefarious "dollar queen" traffic, but they had to cater to it or sell but few queens. One of these breeders of queens expressed himself in the following language, to which we invite especial attention:

> "In order to improve the stock there should be a careful selection of the best queens and drones to rear from. But with the 'dollar queen' business this is not done. If a colony be made queenless, it will start some 15 or 20 queen-cells; but only 3 to 5 of these are ever designed by the bees to be developed into queens. But the 'dollar queen' business requires that as many of these cells be developed as possible, in order to make it pay. The three that are first capped are yellow, and will usually duplicate the mother, but nearly all the rest are really worthless; they are dear at three for a quarter of a dollar! I have sent out as good dollar queens as any man, but I must have sent out many that were entirely worthless. I destroyed 300 of such that I think some breeders would have sent out. Rarely more than three, and never more than five, of the queen-cells started at one time will produce queens that are good for breeding purposes. The first of the three queen-cells first capped over, is better worth ten dollars than the last of the whole lot is worth ten cents. For the deterioration in the stock, the dollar queen system is to blame. Good queens cannot be bred and sold at one dollar, without loss."

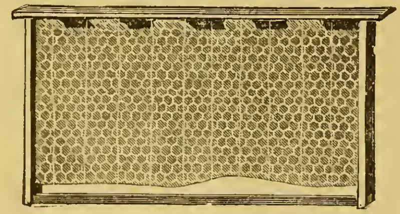
For various reasons we shall not here give the name of the breeder; that being of no value to the argument—suffice it to say, that it was an advertiser in the different bee publications last year, and one that sold many queens, both tested and untested.

The whole race of Italian bees is to-day under condemnation, because of this criminal traffic in UNTESTED queens. We find no fault with the price, but must condemn the system of selling for breeding purposes any other than tested, well-developed queens, produced from the very best colonies of the Italian race. Whether such can he raised and sold for ten cents, ten dimes, or ten dollars, we care not; but such only should be sold, at any price.

◆

COMB FOUNDATION.—We have samples, of comb-foundation made on a Wilcox & Olm's $60.00 machine. Also some made on Mr. Bourgemeyer's machines; and, really, they are very nice—not quite so perfect as that made by the $100.00 machine manufactured by Novice, but good enough for any one.

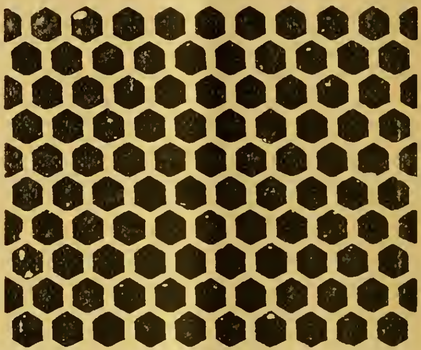
Several have asked how the wire is inserted in the new kind of foundation, so we will here say that the wires run from the top-bar downwards, as seen by the engraving.



Frame of Foundation, showing Wires.

For triangular top bars the foundation may be fastened in the manner represented by the engraving. Cuts in the foundation about 2 inches apart, and ½ an inch deep may be made in the top; bend the little pieces, so that top bar may slip between the pieces so bent, pressing the pieces down very hard on alternate sides of the top bar with a knife, chisel, or any hard substance, dipping it in water or honey, to keep it from sticking.

The frame of comb-foundation does not correctly represent the new foundation so we present another engraving showing the exact size and shape of the cells—the white lines showing the side walls, and the six-sided black spots exhibit the flat-bottomed base of the cells.



Foundation with flat-bottomed cells—exact size.

White or bleached comb-foundation is not agreeable to the bees, and should, therefore, never be used. We have several samples of the white, intended for surplus honey; but let us repeat, never use any of it, nor any of the yellow, in surplus honey. If it is desired to use starters of foundation, let it be but about ½ an inch. It is safest never to use any; but if it must be used, the less the better.

◆

LAST summer, D. A. Pike, of Smithsburg, Maryland, sent us some nicely-marked drones, which we thought we then noticed in the JOURNAL, but finding that we did not, we will now say that they are yet on exhibition in our Museum. They have been admired by hundreds of our visitors, and are certainly very fine and well marked. Mr. Pike is experimenting in order to develop a strain of Italians that will excel, as are many others. This is just what is needed, to breed UP, not DOWN—improve the race, not to degenerate it, by selling half-developed, untested queens! Success will no doubt crown the efforts of breeders who are trying to breed a strain, having all the excellent qualities of the best of the Italian and other races of bees.

WHAT DOES IT MEAN?—A correspondent wishes an answer to the following, but as we prefer to have the author explain it, we here ask him to reply in next JOURNAL. Here is the question :

> L. C. Root said in his essay, at National Bee-keepers' Convention, published in Dec. No. AMERICAN BEE JOURNAL, on "Hints to Beginners," "Spring is the preferable time to purchase bees, and *if they are transported long distances, they will be benefitted by the shipment.*" Please answer in JOURNAL—Why So ?
>
> Being at late National Bee-keepers' Convention, held in New York. I was favorably impressed with its purpose ; and not particularly as a compliment to you, personally—let me say, the JOURNAL you represent is a perfect reflex of an efficient officer, and with your genius so well adapted, the enterprise must receive a wonderful impetus in the practical handling of the industrious creatures. Sentiment, boys' talk, self interest, too often, heretofore, have found vent in extolling the great works of Lilliputians. A. E. WENZEL.

We are glad that Mr. Wenzel disclaims the idea of a personal compliment in the latter clause. We will do all we can to further the interests of the National Association, and it is exceedingly gratifying to us to hear from all quarters that so many of our prominent apiarists are coming to the next Convention in Chicago. It NOW appears that that meeting will be the most important and enthusiastic one ever held in America. We must make arrangements for an immense gathering. From the East, West, North and South, come the promises of attendance.

THE BLESSED BEES is the title of a new book of 169 pages, by John Allen. A copy of it is on our table, and we must confess, it possesses such a pleasant style that its perusal was a great pleasure. Its contents cover all the ground in bee-keeping from "Beginning" to "Marketing." It will be read by every one with as much delight as the lover of light reading experiences over the latest novel—for really that is the style in which it is written. It is published by G. P. Putnam's Sons, 162 Fifth Avenue N. Y., at the popular price of $1.00.

☞ We have receive a model showing how Mr. J. H. Murdock packs his bees for wintering on their summer stands. An article explanatory will appear next month.

SELF-ACCUSATIONS.—If a man's estimate of himself should be the measure for others to form their opinions, Novice's "Gleanings" for December reads very strangely ; "Our Homes" being filled with the meanest pen-pictures ever heard of. Novice charges himself with "stealing in the dead of night," swearing, quarreling, and the like ! On one occasion, coming home in the evening and finding the back door bolted (a very proper thing at such times), he says :

> "In my rage and frenzy I kicked one of the panels out. The next time, I aimed for the center piece of the door, but missed it, and kicked out the opposite panel; at the third blow I broke the whole center of the door out, and then stood before the affrighted but innocent four (wife and children) my face livid and my voice hoarse with passion."

In the name of decency, give us something more pleasing, if we must be treated to these personal descriptions.

In excusing himself for the improper credit given to a quotation from Langstroth's book, Novice says he quoted it without "looking it up," &c., then adds :

> "One of the hardest things I have ever tried to do in all my life, is to learn to tell the truth, the whole truth, and nothing but the truth, under all circumstances, and upon all occasions."

This self-accusation is not only unnecessary, but disgusting! Had any one else made such charges against him, he could have been almost excused for "getting mad and smashing things!" But we did not intend to say anything further than to protest against such unwise personal accusations in a bee publication.

We have received quite a number of letters criticising "Gleanings" for December, but have only room for the following, from a prominent clergyman and bee-keeper.

> "Gleanings in Bee Culture" for December is on my table. I have read it through. If its editor would publish this communication, expressing my indignation and disgust at his gushing cant and his canting gush, I should send it to him. But not a few of us know, by experience, that any frank and manly expression of disagreement with him is refused admission to his organ. I therefore send it to the BEE JOURNAL.
>
> Probably most of the readers of the JOURNAL and of *Gleanings* have a reverent faith in Truth and Goodness, in that Infinite Power that is above, and through, and in us

all, in that gospel of love for God and love for man which was taught by Jesus. It is because we have this reverent faith that I am led to protest against the mixture of cant and conceit and mock humility which appears in nauseating excess in the December *Gleanings*.

He first speaks of "Our New Home." All are glad to hear of this new building, for Mr. Root has been very industrious, and deserves in this respect the reward which his industry has brought. But he goes on to say, "I sometimes wonder, even now, if it is not a mistake God has made, and if it will not be taken away and given to somebody else. I fear I shall get mad and smash things again, and wrong and abuse those who are so patiently doing my bidding."

Well, Uriah Heep, you need not fear that God will take your elegant workshop from you. God is not nearly so mean as your small soul makes you think he is. He has no desire to steal your building for which you have worked hard, and bestow it upon somebody to whom it does not belong. When he becomes a common thief, we will all stop worshipping him.

A kind subscriber promptly sends his own subscription and that of another, in advance, for next year's *Gleanings*, accompanying the money with some friendly words. Whereupon Mr. Root says: "God will bless you, my friend, for the unselfishness which makes you think of my factory, and myself, an almost utter stranger, rather than of your own factory, and yourself, who very likely are far more deserving of help than I am."

Now, Uriah Heep, what is the use of that cant? If the subscriptions are paid for *Gleanings*, and that paper is honestly edited and sent, there is an end of it. You need not play the part of lick-spittle by making believe that you are "so 'umble." Besides, if you really think that Mr. Green deserves to have the *Gleanings* sent to him free, that he is "more deserving of help" than you are, it is your duty to return to him the money and tell him you will give him your paper for a year. And then, having done this Christian duty, do not blow a trumpet before you to announce it to the world.

Another correspondent, in a friendly note, tells how he was led to do a generous act by thinking of "Our Homes," and of what, as he thought, Mr. Root would have done under similar circumstances. Then this disciple of humility gushes thus: "May God bless and guide you, my young friend, and may you learn to look to Him, if you do not already, rather than to my poor self, for an example."

Did blasphemy and self-conceit ever reach a higher level than this? This Uriah Heep of real life is far superior to his great phototype in Dickens' immortal fiction. The great novelist does not tell us that his "'umble Uriah" ever thought of declining to stand beside God as an example for an admiring world to follow. This height of self-conscious humility and of blasphemious conceit was reserved for that greater Uriah, who pours into *Gleanings* the sickening emanations of his mock humility.

COMMON SENSE.

Foreign Notes.

☞ The bees cultivated in the northern districts of China, appear to be only a variety of the common kind, somewhat smaller in size.

☞ Cuba has about 1,500 apiaries furnishing enormous quantities of wax and honey, the latter of very inferior quality. Bees are kept in a rude and slovenly manner.

☞ It is stated that two agriculturists of the department of the Ver France, recently discovered their bees feeding upon cakes of oil seed, which had previously been subjected to the oil press and which was being beaten up into a paste with water to be used as manure for potatoes. The bees were afterwards allowed abundance of this food and their owners have since been rewarded with nearly ten times the usual increase. So says an exchange.

◆

Foreign Items,

GLEANED BY FRANK BENTON.

SEVERAL translations from the AMERICAN BEE JOURNAL appear in recent numbers of Italy's apiarian journals.

WAS St. Ambrose, the Archbishop of Milan in the 4th century who so boldly inflicted penance on Theodosius the Great for his execution of 7,000 citizens of Thessalonica, really the tutelar genius of apiculture?

NONE of the foreign journals of apiculture which come to us, present the neatness and taste in typography and binding, nor the completeness of indexing which our own AMERICAN BEE JOURNAL exhibits. *L'Apiculteur* of Paris, which is just entering its twenty-third year, comes nearest to it. Its editor is, unfortunately, the leader of the *fixistes*—the class of apiculturists in France, whose members, as the editor of L'Ape *Italiano* (Turin) expresses it, "defend with drawn sword the ancient system of immovable combs."

GLUCOSE OR GRAPE SUGAR AS BEE FOOD.—On this subject the conclusions of Mr. Ch. Zwilling, one of the editors of the apiarian journal published in Strasburg, agree with those of Ch. Dadant and Chas. F. Muth, and those contained in Dr. Kedzie's excellent article before the Michigan Beekeepers' Association at its meeting in Grand Rapids last month. Last September a correspondent stated to Mr. Zwilling that he was feeding his bees by placing near the hive, water sweetened with glucose, whereupon Mr. Zwilling replied: "This may answer, provided the coming winter should not be long and that it should be such as to enable your bees to fly from time to time to empty themselves; otherwise this water sweetened with glucose might easily produce dysentery. Feeding with candy made of sugar-syrup is preferable, and costs little more."

Our Letter Box.

Spencer, Mass., Dec. 10, 1878.

I think the world of the Bee Journal. It is the only paper that comes to our address of which every word is read. I never skip anything, and I am sure it is worth five times its cost to any bee-keeper. I wish it abundant success. E. F. Sibley.

Chillicothe, Mo., Dec. 12, 1878.

Dear Editor.—Thanks for the compliment paid me by the last annual meeting of the North American Bee-Keepers' Association by their electing me a Vice President for this State. When time and opportunity offer I will try and duly respond.

J. W. Greene.

[Dr. Greene is an advanced apiarist and fully alive to the interests of apiarists in Missouri, and will be made very useful in furthering their interests in every possible manner. Dr. G., will please look out for the Honey and Bee Show next season, and correspond with the managers of the State Fair relative thereto. Missouri can and should make a good show.—Ed.]

Maysville, Ky., Dec. 17, 1378.

I begun the season of 1878 with 70 colonies of Italian and hybrid bees, increased to 94. Worked 30 for extracted honey, and got 3,150 lbs.; worked 40 for comb honey and got 1,750 lbs. Total yield of 70 colonies 4,850 lbs. of honey and 24 swarms.

Wm. C. Pelham.

Jefferson, Wis., Dec. 5, 1878.

I see that I am elected one of the Vice Presidents of the North American Bee-Keepers' Association. I accept the position, and will cheerfully co-operate, to further the interests of apiculture generally. I hope to attend the next meeting of the Association next October, in Chicago, and unite in the discussion of the themes of importance that will come before it.

Christopher Grimm.

[Of course, we fully expect you to be present, and aid us in every way possible. You must see that Wisconsin's Bee and Honey Show is one of the best in the United States. It is important that you confer with the manager of the State Agricultural Society and arrange the preliminaries and get prizes offered by them as well as the National Association.—Ed.]

Ripton, Wis., Dec. 8, 1878.

Dear Editor.—Allow me to join you in the welcome you extend to L. L. Langstroth. In our younger days we remember him as a friend to the bee-keeper, and a gentleman in all of his dealings. Those able bee-masters, Langstroth and Quinby, gave us our first lessons in bee-keeping, and we hope never to forget those happy days, and the names of our eminent teachers. R. Dart.

Catskill, N. Y., Nov. 25, 1878.

I have derived more practical knowledge from reading Prof. Cook's new "Manual of the Apiary," than from any other book.

E. H. Wynkoop.

Lowell, Ky., Dec. 4, 1878.

I see I have been elected one of the Vice Presidents of the National Bee-Keepers' Association. I assure you that no man takes deeper interest in bees than I do, and I shall gladly undertake all that may be required of me in that position so far as my delicate health will permit. R. M. Argo.

[Your interest in the science and long experience in the business procured that appointment. When the proper time arrives, you will, no doubt, do all you can to get up a good Honey and Bee Show in connection with your State Fair, and thus aid producers in bringing up the standard to an honorable position. Improvement in the race of bees, and in production and marketing, are the desirable points. Give it all the thought and attention you can, that when the time for action comes you may be ready.—Ed.]

New Orleans, La., Dec. 12, 1878.

I send flowers and leaves of what is named here "Japan plum." It is *Mespilus Japonica*, and *Evergreen*, and produces a most delicious fruit which often ripens here as early, as February. The blossoms appear in the autumn months. This year the earliest bloom was seen the first week in August; from 1st September until now, it has bloomed profusely and it is yet in full bloom, with an abundance of embyo fruit. And unless we have a freeze—(ordinary frosts do not affect it), it will continue to bloom a month longer. At present it is almost the only thing in full bloom. My bees (300 colonies) have taken a very large quantity of delicious honey from it, and in 60 hives there is so much, that the extractor has been resorted to. My bees are 15 and 30 miles South, in the adjoining parish.

John M. Putnam.

The *Mespilus Germanica* grows in England, and is much praised for its fruit. From Mr. Putnam's account the *M. Japonica* is unprecedented in its length of bloom.

We think two months a long time. We pay high tribute to mignonette, cleome and borage, when we tell of four months of bloom; but this is mild praise when compared with this Japan Plum which flowers from August 1st till January.

The flowers are in a dense panicle, and were still fragrant after their long journey. The leaf is lanceolate, and very thick, some like the wax plant. I should say it was an evergreen. The apiarists of the South are to be congratulated on this valuable acquisition to their bee forage. I hope it will thrive North as well as South.

A. J. Cook.

Mayesville, S. C., Dec. 14, 1878.

Your reduction in price of the Journal is a practical evidence of success, which your numerous subscribers will appreciate. This done, coupled with the fact that it has been much enlarged, gives assurance that you are determined to continue to make it, what it already is, the best and cheapest of all the bee papers. I congratulate its publishers upon their success, and hope the future of the American Bee Journal, may be even more successful and prosperous than its brilliant record of the past.

J. W. Hudson, M. D.

Columbus, Ind., Dec. 10, 1878.

I shall *contend* that a queen, to be *strictly pure* must produce uniform 3 banded drones just like the workers. It seems that my articles on standard of purity are not understood by some, while others apparently do not want to discuss the subject at all. Let us have a standard for American-bred Italians. We surely have as pure stock, if not better than we can get in Italy. Why not improve what we have and exchange queens with one another to prevent in-and-in breeding? It seems to me that if we conclude on a standard in this country and live up to it, that our brother breeders in Italy will breed to it, if they expect to sell to us.

Jos. M. Brooks.

Malcom, Iowa, Dec. 2, 1878.

Some 5 years ago Mrs. Lizzie Cotton proposed that I send her a colony of bees, prepaying all charges and she would send me one of her hives and her directions for managing bees in order to obtain large yields of honey. I did send her the bees and after a long time she sent me one of the worst-looking, meanest-constructed and cumbersome boxes I ever saw, but no instructions about management. I repeatedly wrote to her for them, but could never get a word from her. A neighbor of mine also sent her $10.00 for a hive and her system of management as she advertises, but never received anything in return. She ought to be exposed. Wm. Clements.

Charlottesville, Va,, Dec. 14, 1878.

Conversing recently with an intelligent gentleman who has a few colonies in box hives, he mentioned something that I do not remember seeing in print and which in any event appears to be worthy of notice. He said he never cut off branches of trees to get down natural swarms. Being entirely fearless, and I judge oblivious to bee stings; for he says he has had 20 on his head at once. His plan was to hold one hand above and into the cluster and the other just below, gently agitating them. They would climb up on his hand, or by holding or fastening a twig above, climb up on that and then he would carry them to the hive. He says too, that he has no difficulty in catching queens that way, for the bees climb up and she is the most reluctant to leave and is easily seen at the bottom of the cluster. A gentle, persistent movement at the bottom will drive without irritating them.

I was recently called upon to see a colony in a neighbor's apiary which had, late in the season, built combs outside and underneath the bottom board. It was supposed, to be a case of over-crowding, as the supers had been taken off in July, and here was sealed comb and bees out of doors the 1st day of December. I tried to lift the cover, but had to pry it off; all the frames were thoroughly fastened and a net-work of cocoons in every available space; of course there was not a bee, nor an inch of comb. The bees had been driven out. Such cases are rare I judge, for I never saw one before.

J. W. Porter.

De Vall's Bluff, Ark., Nov. 10, 1878.

In looking over the late proceedings of the National Bee-keepers' Association, I see my name among those who were elected Vice Presidents for the ensuing year. Owing to the great distance and consequent expense I have found it impracticable to attend your meetings; but have nevertheless been interested in your labors for the genral good, and have long desired to see the bee-keeping interests of this country united in National Conventions—with State and district Societies as auxillaries; in this way to advance scientific bee-culture. I am willing to serve the Association to the best of my ability. Desiring to become a full member of the Association, I enclose my initiation fee of $1.00. And permit me here to suggest that it would be an excellent idea for all those who have been similiarly honored, to show their interest in the welfare of the Association. It would materially strengthen the Association, especially if the practice were followed up from year to year. W. W. Hipolite, M. D.

[We well knew that Dr. Hipolite's professional duties filled up his time, but he will make an able and energetic representative in Arkansas, of the National Association, and hence the wisdom of the selection. His idea of membership is a good one. We ought to have 1,000 members, at least, who would send $1.00 to the general fund.—Ed.]

Morrison, Ill., Nov. 25, 1878.

One night last week, some one took advantage of the darkness and went through my bee-yard, and carried off and destroyed several hives of bees. I had fixed for winter and they had but little honey, so the value of honey taken was small, compared to damage by carrying off colonies and overturning others. Will some of your thousands of readers tell me the cheapest and best way to protect my colonies from human robbers, while on their summer stands? I have an idea that each hive can be connected by an electric wire to an alarm, that will give notice when they are disturbed, or attatched to a gun that will shoot—but I am not electrician enough to put the idea into practical shape for use. My hives are set in a hexagonal shape, 6 feet apart each way, and not more than 50 feet from my bed room. I will make a handsome present to the person that will give me the best plan for protecting 100 colonies.

F. W. Chapman.

Correspondence.

For the American Bee Journal.

A Criticism—Comb Foundation.

BY G. M. DOOLITTLE.

I read with much interest the *new* "Manual of the Apiary," by Prof. Cook, especially the scientific part, for I learned much thereby. I consider it, on the whole, an excellent work, and it should be in the hands of every bee-keeper in the land. There is an item, however, in regard to artificial swarming, which I consider dangerous, especially to those not posted in apiculture. I dislike to criticise, and would gladly pass this by, were it not that it may result in loss to many who read the work. On page 178 we read in reference to artificial swarming:

"If the apiarist has several colonies it is better to make the new colony from several old colonies, as follows: Take one frame of brood comb from each of six old colonies, and carry them, bees and all, and place with the nucleus. Fill all the hives with empty frames as before," &c.

If, instead of empty frames, he had said empty combs, this article would never have been written, for in that case no drone combs could have been built. Having these empty frames filled with drone comb is wherein the danger lies.

To best give my views in this matter I will quote from an article from my pen, on page 123 of *Gleanings* for 1874: "Mrs. Tupper and others tell us to make our new colonies by taking full frames from several old colonies and putting empty frames in their places, thereby making a full colony at once. We have found ourselves often wondering at such advice, as we never have been able to get one square inch of worker comb built under such circumstances."

Although I have experimented much since 1874, I have no reason to change this statement. But, says one, you live in New York and Prof. Cook in Michigan, and perhaps this is wherein the difference lies, as we all know that bees do not act alike in different localities. I might think that this difference in location caused the bees to build different comb were it not that I find on page 13 of *Gleanings* for 1877, in an article from the pen of E. Stanhope, Pentwater, Mich., this statement:

"Some 8 or 9 years ago we were lying awake nights studying on the bee business, and with the rest we got the idea that there could be a big thing done in artificial swarming. We had it (in theory) surely; it would work without a doubt. When the time came round all right and the bees were strong and had lots of brood, just right, we went to a number of colonies and took a frame of brood from each, put them all together in a hive, and gave them a queen cell; we also put empty frames in the old hives from which we took the brood. The young colonies came on in good time, and did well; but the old ones, what did they do? They built the empty frames, every one full of drone comb, and filled it with drones. Our theory was smashed, and we have never been able to get strong colonies to build worker comb before swarming time, not even the blacks, as good comb-builders as they are."

But we have not got to hunt up various authors to prove that these old colonies will build only drone comb, for Prof. Cook tells us they will, in this same "Manual." Listen to what he says on page 110: "The character of the cells as to size (that is whether they are drone or worker) seems to be determined by the relative abundance of bees and honey. If the bees are abundant and honey needed, or if there is no queen to lay eggs, drone comb is invariably built, while if there are few bees, and of course but little honey needed, then worker comb is almost as invariably found."

As in 1874 I wondered at such advice about making artificial colonies, so I am wondering now that such a system of making colonies ever got in Prof. Cook's Manual, and have even found myself wondering if Prof. Cook ever made a colony that way, even although he says that by so doing he "can thus always, so my experience says, prevent swarming." He must have used empty comb in these old colonies where he tells us to use empty frames.

But, says one, use comb foundation; it has proven a success, and it will remedy all evils in the shape of drone comb. Now, my friend, I am afraid you have got me in hot water, for Doolittle does not acknowledge foundation to be a success as yet. I gave you my experiments with it up to last year, in the March number of the AMERICAN BEE JOURNAL, Vol. XIV., and although I am a little better satisfied with the present year's attainments, yet foundation is far from being a success, when compared with natural worker comb. In the first place it has sagged badly, unless built out in cool weather, and even in cool weather it sags so that the cells in the upper part of the combs measure 4½ cells to the inch, while natural comb for brood purposes measures 5; also, some of this built out in cool weather, when filled with honey and sealed over, sagged so as to tear the cells apart and set the honey to running, with the mercury at 95° in the shade, while not a natural comb stirred a particle. In the second place, it requires twice the fussing and looking after, to get it built out into half-way decent combs, that it takes to get natural comb built; and thirdly, it costs more than natural comb, where you have to pay more than 50 cents per lb.

But, says another, Mr. Nellis told you at the North-Eastern Bee-Keepers' Convention, last February, that he was headquarters for foundation, and that which he made did not sag so as to injure it in the least. Admitted; but if such was the case, why is Mr. Nellis now crying "Eureka!" in regard to foundation with wire incorporated in it? If it did not sag before, why does he put wire in it now to keep it from sagging, thereby enhancing the price nearly one-half? And then, friend Betsingsr tells us in the November number of the AMERICAN BEE JOURNAL that the bees don't rear brood over those wires. I tell you, comb foundation is not yet proven a perfect success, nor will it until it can be used without looking after in any spot or place, and in any weather, wherein a natural comb can, and that at a cost not to exceed 50c. per lb. Don't understand me as discouraging experiments with it, for I do not, but shall keep experimenting, for I am as anxious to make it a success as any person in the land. Mr. Langstroth wrote me in a private letter that he thought he could devise a way to make its use a success, so I willingly make my bow, and leave the field for a more able pen than mine.

Borodino, N. Y., Dec. 5th, 1878.

P. S.—I have said nothing of its use for comb honey, as I have discarded it from the boxes altogether, for the reason that when honey is plenty and the bees are secreting wax, they simply add their wax to the foundation, never touching it to draw it out a particle. By scraping the wax off we have the foundation just as it was given to them, and nobody likes to eat such stuff. My advice would be, discard it from the boxes altogether. G. M. D.

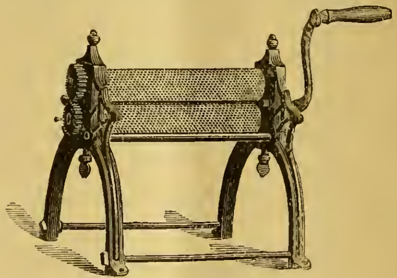
[Mr. Doolittle's point is well taken; in the fourth edition, which will soon be issued, the error will be corrected—it having already been detected and marked for correction before this article was received. Prof. Cook was greatly over-worked during the proof-reading, and hence the error in substituting the word "frames" for "combs" was overlooked by him. Mr. D.'s criticism and kind words are duly appreciated by both author and publishers.—ED.]

For the American Bee Journal.

How to Make Comb Foundation.

BY JOHN BOURGMEYER.

After having tried different ways, I found the following the cheapest and best: My dipping boiler is made of good tin, 14 inches long, 20 inches deep and 4 inches wide, with attachment at the upper end, about 2 inches wide, for the purpose of holding more wax. The dipping boards are pine, ⅜ inch thick, 12 inches wide and 14 inches long; for Langstroth, 9 inches wide and 20 inches long, both sides planed smoothly. Of these I have three of every size. I melt the wax, pour it through double mosquito bar into the dipping pan, which is nearly filled with hot water. I always keep a pan with melting wax on the stove.


My new Machine.

The room is kept at a temperature of 80 deg. 85 min. Fahr. In cold weather I put the dipping pan in a wash-boiler filled with hot water, though this is not necessary in summer. The dipping boards must be kept in cold water; for that purpose I use a wash-tub. After being thus prepared, I take a board and dip it into the wax just as deep as I desire to make my sheets, take out and let cool a moment, then dip in again, take out and let the wax run off, dip in cold water, after which I give it to a second person, who, with a knife, takes off the sheets. It is of no use to make the sheets much thicker than required. Care must be taken not to get the wax and water too warm, or the wax will run off the board.

A third person is also useful to take care of the wax melting and keeping the boards cold and wet. I have a knife at my right side which I run through the wax when it hardens. On July 14th, the hottest part of the past season, I made 30 pounds of sheets in three-quarters of an hour. All pieces of wax not right are melted again, and put into the dipping pan as soon as the melted wax lessens or gets too hard. The cold and wet boards cool the wax in a short time. When I have no more wax I use warm water to keep the pan filled. After the dipping process I separate the sheets, thick and thin, for giving the impression from the machine. For lather I formerly used slippery elm and corn-starch; now I use strong soap-suds, and thoroughly wet the rollers by running the machine. After that I run a sheet through, and when it comes out on the other side of the rollers it is loosened with a turkey-quill by a second person, after which it is taken between both hands and drawn out slowly; then draw through clear water, which will rinse from soap. Wax is a substance that will take any impression while soft, but after becoming hard or cold, it is difficult to work up. When the points of the cells look white, it indicates that the wax is too cold, and impossible to impress side-walls. Some ask, will it do to run very thick sheets through the machine? I answer, No! It may hurt the machine and tire the workman. The lower roller of my machine is movable, and regulated by the two screws under it, to make foundation thick or thin. Patience and perseverance will accomplish the end. I do not say that my way of making foundation is the best, and I would like to hear from others as to their way of making it. I think this would be a favor to a great many readers.

Fond du Lac, Wis.

For the American Bee Journal.

Improvement of the Race of Bees.

BY JAMES HEDDON.

Mr. Editor: I think I may safely say that no question created more interest at our late Michigan Bee-Keepers' Association than this. I was much pleased to see so many of our leading and experienced apiarists coming over to the ground that I have felt sure was the future field of our labors. We certainly owe Prof. Cook a vote of thanks for his fearless and able essay upon "Untested Dollar Queens." From careful experiment and observation, I have long felt sure that there was more difference in the valuable qualities, between certain colonies and strains, than between the different races of bees.

Why is it, do you suppose, that there is such a difference in the results in surplus honey, between colonies that, to all appearance, should equal each other?

Believing that every reader who has had two years' experience with bees knows that this difference exists, I wish to ask this question: Is it not the best way to breed *qualities*, regardless of stripes? Men have bred the horns off their cattle; they have bred the shape of every limb of their bodies; they have to a great extent bred their disposition to suit their ideas. Now, I admit they have the advantage of a more perfect control and choice of the sires, but this is more than offset by the rapidity with which we can produce one generation after another.

In order to Italianize this neighborhood and accommodate some of my neighbors, I commenced to raise queens for others, some three years ago. Word of that fact was spread abroad, and according to order, I sent some queens to parties at a distance. Of course I bred and selected three yellow-banded queens to ship to these parties, at the same time selecting those of good qualities, when it did not conflict with the three bands.

The worst feature in my case was that to perfect my apiary for queen-rearing to sell, and satisfy my patrons, was not at all the plan of perfection that was necessary to the best results in surplus honey. The production of surplus honey being my business, I was not long in making up my mind just what to do. Then came the dollar queen system, in which I thought I saw an outlet. We were not obliged to warrant them to have any exact number of rings or shade of yellow. Now we could pay strict attention to qualities. "Bless the man who first had sense enough to devise and spread this system!" said I. But ere I had long practiced it, I found that it, like nearly all the rest of his work, was destined to prove a curse to the bee interests of America.

As far as the feature of the strict purity of either was concerned, the system was all right, but the one dollar was not sufficient pay for rearing, fertilizing, putting up and delivering the two or three valuable queens of each brood. I mean that if a brood of ten queens is hatched, and if the poorest five are worth one dollar each, the best two or three are worth ten dollars each. But neither statement is correct. I would say that perhaps about one-fourth on an average, of the cells that will hatch, will produce queens of value. The rest are not worth the stamp that it costs to carry them. The great law of the "survival of the fittest," must not be violated. When we attempt to assist nature, we must have sufficient knowledge to in no way controvert her actions for good. There are several ways to produce queens, and while one will give us a share of valuable ones, the others, I may say, *none*. As is usually the case, the best are only got by the greatest amount of pains. Who has not seen the astonishing results from hybrids that survived in spite of the master. A business man usually is forced to cater to the demands of his customers, but I feel sure that queen-breeders will greatly lower the tone of our stock if they do it, unless we can change that demand.

I stand more in the light of a purchaser than a vender of queens, as in the past I have bought as many or more than I have sold. Now I will tell you the course I shall pursue, and the one I wish all would adopt. I shall control the blood of my apiary as much as I can consistently with the duties of the great ultimatum, surplus production of honey. I shall look, first, to amount of surplus; second, indisposition to swarm; third, good nature, etc., then breed from such colonies as possess these qualities in the greatest degree, always giving my preference to a certain strain of Italians I have, other things being equal. Just as sure as I find one or more of these qualities strongly shown in any other blood, I shall not destroy nor discourage it. When I become convinced that any other bee-keeper is ahead of me, I shall purchase of his stock. It would be necessary that I must know that his stock is superior, by actual observation, or his integrity must be known to be such that his word is ample proof.

Another very important feature in this interchange of blood, is to make sure that you are not getting a *diseased* blood. It seems as if no man could be vile or avaricious enough to send out broad-cast death and disaster, but we know that such is humanity, and bee-keepers are only human. I believe that there are some such queen-breeders, but as they are no doubt in the minority, some painstaking will enable us to avoid them. I know that what I say is not particularly interesting to many queen dealers, but I say it because careful experiment and observation forces me to believe it, and, Mr. Editor, I believe you want our honest, unbiased thoughts, or none at all. G. M. Doolittle is a honey producer, like myself, and what he says on page 376, of last November number of the American Bee Journal, is not only the experience of one of the large honey producers of this country, but the experience of hundreds more who have said nothing.

To conclude, I will say that I believe that the future welfare of the bee race depends upon breeding for quality, instead of quantity, looks, rings, &c. Let us see how *good* queens we can produce, instead of how *cheap*. A breeder should have a reputation for business bees, instead of those wearing the greatest number of "gold rings."

Dowagiac, Mich., Dec. 12, 1878.

For the American Bee Journal.

The Adulteration of Sweets

BY CHAS. DADANT.

Our petition has now the greatest prospect of success; the ways and means committee having brought to light the frauds practiced by some unscrupulous refiners of sugar, who have yearly deprived the public treasury of four or five millions of dollars for four years.

Many of the New York papers have published articles on the question of adulteration.

The reports of the custom-house show that the importation of glucose was, in 1875, 2,352 lbs.; in 1876, 65,789 lbs., and in 1877, 233,366. Many manufactories of this article have been constructed of late years, and are now in full operation. It is estimated that the production of glucose in the United States surpasses that of starch.

What becomes of the enormous amount of glucose produced here, as well as that imported? Is it retailed in groceries under its own name? No; but we swallow it under the names of sugar, syrup, molasses, jellies, candy, honey, etc., or transformed into wine, beer, etc.

Now, what is the result of the use of this article on the public health? In the Academy of Sciences of New York, and in medical reports, you can see that the mortality by Bright's disease and diabetes has increased for several years in this country, and that this mortality is attributed, by competent physicians, to the use of glucose, and to its deleterious effects on the kidneys. The sugar of the urine of persons affected with diabetes having been traced, by means of the polariscope, to adulterated sugars and syrups used by the patients.

As if all this was not sufficient, Messrs. Thurber & Co., of New York, have assisted by sending a whole cargo of honey to England. This cargo has just been confiscated at Liverpool by the British government. The "genuine

American honey" having been proved to be adulterated. (See *Board of Trade Gazette*, Dec. 7.)

The result of this is that it will shut up the European markets to our honey, for European dealers will refuse to buy our products, fearing to obtain an adulterated article. Such facts as these make the law against adulteration a question of life or death for bee-culture in this country. What will we do with our honey if our merchants continue to be flooded with glucosed honey, and if the European markets refuse to buy from us ?

The petition will be presented to Congress in January. Yet there is time to obtain names. I made a mistake by directing that the petitions be posted up in the post-offices. A great many petitions have been lost in that way. Those who have lost their blanks in their post-offices or otherwise, are requested to send me a postal card and I will gladly mail them another blank.

Every bee-keeper ought to get one, even if he be unable to get more than ten names. One thousand copies, containing ten names each, will give ten thousand signatures. Every one of us can get ten names and more in less than one hour. The cost will be one cent for a postal card ordering the blank, and one cent to get an envelope, stamped as for circulars, the petitions being considered as printed matter if sent in an open envelope. Who will be so unmindful of his interests as not to expend two cents, and one hour's labor, to help our endeavor ?

Hamilton, Ill., Dec., 1878.

For the American Bee Journal.

Comb-Building, Queen-Rearing, &c.

BY A. F. MOON.

Here we are, dear friends, at the end of another year's journey ! The year 1878 has passed rapidly, but it has been a memorable one. The AMERICAN BEE JOURNAL has been issued promptly, carrying glad tidings to every part of the world. It has been an exposer of error, and a promoter of truth ; it has fought valiantly with prejudice, and won. It will, to-day, greet its thousands of readers and receive hearty welcome in return. Its editor and all his contributors will wish "A Happy New Year !" to all its readers, being determined that the JOURNAL shall, during the year 1879, be more interesting than ever. Bidding farewell to the old year and welcoming the new, let me wish the editor, his correspondents and its many readers, a "Happy New Year!"

MAKING HONEY COMB.

On page 415 of the November number, N. J. Bayard wishes to know why bees will not build comb in Florida in the summer. Bees will build comb at almost any period of the year, if they possess the requisites for that purpose, viz., plenty of bees. food and heat. It is evident that Mr. Bayard had plenty of bees, and we do not think any heat was wanting, but they had not the material to build the comb with. When bees cease to build comb, select a hive containing plenty of bees, and feed honey or sugar syrup ; you will then be prepared to solve the difficulty. Six years ago when we commenced to teach bee-culture in the South, we found the opinion expressed by nearly every bee-keeper we met, that bees did not make any comb after June. We told them if such was the fact, it was evident that the dry season prevented the flowers from secreting their saccharine juice. Some said that was a humbug ; they knew that bees carried their comb on their legs ; others said on their backs ; while many said it was a mixture of bee-bread and something else, they did not exactly know what. When the season arrived for comb-building to cease as stated, we took a strong colony and fed, at the same time placing glass boxes on the hive. Very soon the comb question was settled, it being the only colony in the apiary that made any comb. It also threw off a fine swarm, which we fed, and that hive was filled with comb in about thirteen days. We find that during the months of July and generally August, the weather is too dry and warm for bees to gather as much as they consume. The year 1877 being an exception ; then during the last days of August bees were gathering finely and swarming.

VARIABLENESS OF QUEEN PROGENY.

On page 430 of December number, H. L. Jeffrey gives a sort of *resume* of what had been said about queen progeny, &c., and added that A. F. Moon says nothing about the season. I did not deem it necessary, being confident that nearly all breeders of the Italian bee were acquainted with the fact that locality, season and age made a great difference in the color of queens.

THE MALE INFLUENCE.

Mr. J., in the same article, tells us something about the influence that the male exerts over its progeny ; these are facts that would be well for some of our noted bee-keepers to consider. I have ever entertained the idea that one of the greatest points to be obtained was the selection of strong and vigorous males. In this selection we are apt to get a different strain, of not only size and hardiness, but also color. Queens are liable to mate with drones of different strains, and this accounts for the variableness in color, not only in workers, but of themselves, as well as that of the drones. The present system of bee-culture, as well as that for centuries past, will not justify the belief that queens will duplicate themselves in their queen progeny !

It has been one of the leading objects of practical breeders of all kinds of stock, to secure the strongest and most vigorous males that can be obtained; in this lies the secret of their success! In the breeding of bees, with reference to color, it would take many generations to produce a race that would duplicate themselves at all times. They would vary not only in color, but in other points of equal value.

Rome, Ga.

For the American Bee Journal.

A Letter from Kansas.

BY N. CAMERON.

EDITOR JOURNAL.—I see by a late number of the JOURNAL that I was elected a Vice President of the North American Bee-keepers' Association. I expect I received that position through your suggestion, so except thanks.

A neighbor called on me with one of Lizzie Cotton's circulars and wanted me to read it and tell him what I thought of it. I told him that it was a lot of falshoods from beginning to end; that it was a grand humbug and swindle, and that I believed every one having anything to do with her would get bitten.

It appears that Mr. Muth has a patent on Honey Extractors, but in all probability he has not the remotest idea that he can enforce a claim to any part of a honey extractor. I made one with the sloping-sided basket in 1872. There are probably othersthat adopted that improvement the same year, or even sooner.

Every now and then the question is discussed as to the best shape of hive and frame. I commenced with a side-opener, but I soon closed up that, and now you could not give me a hive of that kind. I can, however, see some excuse for the apiarist using such a hive where he has frames 10x18 inches; but with the frames say 10x12 inches simply putting them the reverse way in the Langstroth hive a side opener is unnecessary. The advantages of a small frame are so great in every way, that I doubt if any apiarist has given the Langstroth frame 10x12 or 12x12 a fair trial, and then abandoned it for the large one.

Nothing pleases me better now than the inauguration of this move against adulterations; and it should not stop with that of honey alone, but should reach all articles of food. It is estimated tnat one hundred thousand people are poisoned each year in the United States by this neferious traffic. All honor to Mr. Dadant for pushing this matter. But I have not much faith in petitions. There ought to be some good men at Washington, this winter, to follow it up or the petitions, I fear, will amount to nothing. I intended to try to secure a law in our State against adulterations in food, but the thought has just occured to me whether it would not be a better move to get a concurrent resolution through, asking Congress for such a law. It would have more force with Congress than all the petitions that could be procured. I think measures should be taken to procure as many such resolutions from State legislatures as possible. I will take charge of that business for Kansas and do what I can by correspondence to help it along in Missouri. Let us open a war on adulterators. They are an enemy that cannot longer be tolerated. A duty of 10 cents per pound on glucose and an internal revenue tax of the same amount, would prevent its use in adulterating food.

Lawrence, Kansas.

For the American Bee Journul.

Creating a Honey Market.

BY ED. WELLINGTON.

Mr. Doolittle's remarks on this subject, in the December number, with the editorial following it, are to the point. Many are in too great a hurry to get rid of their honey, at any price offered, regardless of the effect on others. One of my neighbors, who had but a few hundred pounds, took pains to tell every one around that extracted honey was worth only 10 cents per pound; and as a result, prices were ruined at the start. I have known extracted honey to sell as low as 8 cents per pound here this fall, and comb honey at 10 cents per lb. What I have sold has been at the following prices: Extracted 12½ cents; comb 16 to 20 cents per lb. When I commenced in the business I sold extracted honey at 18 cents per lb., and comb honey at 25 cents, and no fault was found by my customers at the price. The yield of this Co. is about 20,000 lbs.

Riverton, Iowa.

For the American Bee Journal.

Moving Bees, Extracted Honey, &c.

BY WM. CAMM.

Moving from Iron county, Mo., last October, I shipped 13 colonies of blacks and hybrids by rail. One got a heavy fall, and after looking into that one and finding it all right, I concluded the rest certainly were uninjured, so stuck them in a row two deep at the east end of a building, with a fence on the north, and packed straw behind, between and over them. The winter was so mild that the bees were out more or less every week. I set them out in March, as they had been working on soft maple from Feb. 28th, and upon opening the hives found several with combs wholly or partially broken out of the frames, and several robbed to death, leaving me with but 6 strong colonies and one weak one; traded for 5, bought 1, and a fine swarm of wild bees passing over my hives we invited to stay, and they stayed. Increased from colonies on hand in the spring to 15. Commenced last spring with a new double-walled hive, that was a cube of 13¾ inches inside brood-chamber, and held 10 frames 12x12 inches in the clear inside. Found combs more liable to sag and break out, so cut two inches off the bottom of my frames, and made the rest of my hives 12 inches deep, and like them better. Shall extract yet this fall as soon as I can afford to get an extractor, and to the return sent herewith, might safely be added 100 lbs. extracted and 200 lbs. comb honey. Used 5x6 inch sections, 3-comb box a cube of 6 inches, and 3-comb boxes, 6x6 inches square and 12 inches long. After this, or next year at least, shall run nearly all for extracted honey; but for comb I want only section boxes, both 1 and 2 lb. Use them in trays or racks, that hold 21 of the 5x6 sections. If the slats in the bottom of the rack are as wide as bottoms of the sections, and run lengthwise, so three sections rest on one slat, the sections can be kept as clean and neat as though put in larger frames and hung in the hive.

White clover came in about May 21, and was abundant till after the middle of July; nor was it the "off year" for basswood here. From several colonies I took two racks of 21 sections each of white clover honey, and they now have their third racks nearly full of buckwheat, as very few fall blossoms are open yet.

Some of my hives have holes bored through the bottom-board and covered with wire-cloth; one has a hole 6 inches square under the hive, and all ventilated below have ample ventilation above, while some of the hives have no ventilation at all, except the entrance, ¼ inch deep, nearly the width of the hive, and these do just as well as any, or better. Hives are only partially shaded, and when the mercury is up among the nineties, it is still warmer in the hive, and when business is dull they will hang out in great numbers, though their boxes may not be half full. I raised two hives on ½ inch blocks, but it did no good, rather harm, for more moth-worms have been in them than in any other hives. Bees work on buckwheat only in the forenoon, unless it is a very moist day, or the wheat is on a very steep northern hillside, as some of mine is. The wild swarm, above mentioned, came along the day I got my July number of the JOURNAL. My wife ran out with a looking-glass, and not knowing how to use it, she flashed it among the whirling bees, and then upon a low, shaded branch of an oak that stood among the hives. They soon began to cluster where the bright reflection was thrown, the shade making it bright by contrast, and then she kept the light on the branch till most of the bees had clustered. I did not understand it at the time, but that evening, while reading the JOURNAL, a bee got into the house and buzzed about the lamp, and I got the idea.

I made my increase by artificial swarming, but a day or two after the above occurrence, a very large natural swarm unexpectedly came out. I pointed out a certain branch, and told Mrs. C. to put them on that, and flashing the glass as before, in five minutes they were on the very branch that I had selected. No other opportunities were given for experimenting, but I mention it thus at some length that others may also try it next season.

A swarm of hybrids left, a few days ago, when no one was at home.

My colonies are very strong, but they are getting their brood-comb sadly filled up with honey. They do not seem to be able to build comb as fast as they do earlier in the season, yet bring in honey in abundance.

At a rough estimate, there are about 300 colonies in this county, in all sorts of hives, but mostly old-fashioned box hives. Several have 50 or 60 colonies, but beyond the number of bees, and the fact that all winter on summer stands, rearing perhaps a little corn-fodder over them, nothing definite could be gathered. The country was almost alive with wild bees in swarming season.

There is a good deal of second-crop white clover, but I do not see that the bees work upon it much. There is little fall bloom open, and my bees are confined almost wholly to buckwheat, yet the comb is as white as snow, and the honey richer and better to my taste than any gathered before, this season.

I am much encouraged, and hereafter shall increase my stock to several hundred colonies, as I have several relatives at whose homes I can work 50 or 60 colonies, and though I have been a farmer, artist, teacher and soldier, and liked all the occupations, yet bee-keeping is still more congenial to my tastes and feelings.

Scott Co., Ill., Sept. 2, 1878.

For the American Bee Journal.

Does Pure Honey always Granulate?

BY CHAS. DADANT.

The article of Mr. Baldridge, in the AMERICAN BEE JOURNAL for October, under this heading, reminds me of another written by him several years ago, in which he took sides with the adulterators of honey, who adulterate to meet the demand of those who don't like to buy candied honey.

Never have I said that all pure honey would granulate. But I have said that the granulation of honey was the best test of purity, since the adulterators have been, so far, unable to make candied honey with an addition of glucose.

On the whole European continent, and in all the Northern and Middle States of the United States, all the pure honey granulates. In France, granulation begins in August; the mean temperature of France, in that month, being generally under 70°.

In Illinois, honey generally granulates a month later; yet this year we have on hand several thousand pounds of honey, extracted in July, which, so far (Oct. 15), does not show signs of granulation, the mean temperature having remained above 70°.

There can be no fear of being prosecuted for selling pure liquid honey, for the lack of granulation is not a proof of adulteration; yet if, in December, I was offered a lot of liquid honey, I would be very suspicious about its purity, because I know unquestionably, that all honey gathered in Illinois will granulate in the fall. In Europe, all liquid honey is held in suspicion, and this suspicion led the food inspector of Glasgow to have the bottles of American honey analyzed.

I know some bee-keepers—a few, fortunately—who think that they will help the sale of their honey by preventing it from granulating.

For instance, Mr. Root, of the *Gleanings*, has never published a word I wrote to him about granulation. *It was not of sufficient importance.* But he imagined (there is a great deal of imagination in the writings of Mr. Root), that there was no sale possible for granulated honey, and accordingly, he took the trouble of telling his readers how they can prevent granulation. He advises them to put their honey in glass cans; to put their cans in boiling water like preserves, and to seal them as soon as the honey begins to boil.

Our crop, this year, reached nearly ten tons of extracted honey. It would be quite a job to put it all in tin cans holding from 1¼ to 10 pounds. See the increase of work to boil all these cans.

Now let us examine the profit derived from such an increase of expenses and work! By boiling, honey would lose a part of its flavor; we incur, beside, the risk of spoiling it by overheating, and what is worse, this work would just deprive our honey of its best test of purity. Our honey, remaining liquid, would have to compete with the liquid adulterated honey which is flooding our markets.

Mr. Root believes in letting demand and supply regulate the market; at the same time he advises us to deprive our honey of its *cachet!* What inconsistency!

At the Western Illinois and Eastern Iowa Convention, held at New Boston lately, Mr. Perrine, who was there, could not believe that we were able to sell our extracted honey to grocers for 10 cents a pound or more.

Mr. Perrine said that it was very difficult for him to sell at paying figures, because his honey would sometimes granulate in part, or be in competition with base adulterations of liquid honey, while his was prevented from granulating by boiling.

Our facility in selling our crop comes from the fact that our honey is known to be pure, because it granulates. The number of our customers is every year increasing. Our honey is becoming a staple article where it has once been introduced; while the spurious article is losing the ground that our solid honey gains.

We have just received an order from a druggist of St. Louis for 600 lbs. This druggist bought 100 lbs. last year from us, and is anxious to buy, since he cannot wait till November, when we usually go to St. Louis. It is the same with all those who have tried our article; their orders increase every year.

The same mail brought an order from a minister who had resided at

Hamilton, and who writes us, from a city 100 miles away, to get 100 lbs. of honey, because he knows that we sell a pure article.

We are not the only ones who sell candied honey readily. The first sales are most difficult. We have to convince the grocer that the granulation is not a proof of adulteration; but as soon as the man is convinced, and has tried a small quantity, we have in him a constant customer.

Hamilton, Ill., Oct. 17, 1878.

For the American Bee Journal.

Selling Extracted Honey.

BY D. S. GIVEN.

As I have always sold my extracted honey at good prices, perhaps my plan might be of use to some that can produce better than sell. The first thing I look to is good ripe honey; it would be better to throw unripe honey away than put it on the market. The time to attend to this is when it is gathered. If it once becomes sour, it has lost its flavor and cannot be cured. The best remedy I have found is to let it candy, when the sour part will drain off, then bring it almost to boiling, and skim well. This will help it some, but is not a cure. Honey should always be ripened in the hive. It may be evaporated, but I doubt if the flavor can be held.

Never extract till it is capped over, is the only safe rule. The more combs you give the bees, the longer it will stand before they cap it, and the thicker it is. It takes much longer in wet weather to ripen than in dry, and if they don't have a good supply of combs, they often cap it too thin. It is nothing unusual to see comb honey that has soured.

After you have extracted, place in open vessels; never seal it up. I have noticed good honey put in Mason jars, which stood sealed up, and when opened it had a sour smell, and had lost some of its flavor. The best thing I have found to keep honey in is tin barrels, with a cloth stretched over them. The next day after extracting, all foreign substances can be skimmed off; you never need to strain it, as all impurities will come to the top. After this, skim every three or four days, for several times. That which you take off can be placed in another vessel and treated the same way; but it will never be as nice as the first. Now comes packing and selling. You want something attractive, something that will be of use in every house. The best things I have found are quart tin-top fruit jars, and jelly cups for the light. These can be put up with a nice piece of comb in them, and nicely labeled. For the darker grades I use a 10-lb. bucket. This can be got up on a cheap scale, at almost any tin shop, for $1.50 per doz. Place "Honey" on these with a stencil, using bright-colored paint. You might put candied honey in the buckets, but in cold weather warm the light honey just so you can hold your finger in it, and it will not candy soon.

Now comes selling. If you are an affable man, you will not have much trouble to sell your honey. But the trouble is, almost all our best producers are not affable. They are one-minded men; they go to bed, dream bees all night; get up; think, work and talk bees all day. After they have gathered a large crop, they cannot get far enough from a bee-hive to sell a pound of it, but barrel it up and send to some commission man, and he sells it to some honey house; they pack it, bring it back to Mr. A's neighboring city, and sell it; and as he cannot get more than 12 or 13 cents, he cannot pay Mr. A more than from 6 to 8 cents. If Mr. A wants good prices, he must establish a home trade.

In some localities they have been humbugged with unripe and artificial honey so much that it is hard to get your honey in the market, but if your honey is all right you must push it.

I went into a neighboring city some weeks ago. The first store I went in had some sour honey on the shelf; the merchant said he had been humbugged enough now with "patented" honey. I went to open a jar, and it popped as though they had forced a gallon into that small jar. I talked hard to this man, and succeeded at last in leaving some, to be paid for if sold. He has since sent me an order for quite a lot at good prices. I think I have him righted, but then he has customers that may never be righted. I went into another store and there was some that was about one-fourth honey and the rest syrup. I worked hard on him; but no, he would never offer any more to his customers. I went away thinking him a good merchant, and will try him again.

I worked hard the first time I was in that city, and sold but one small lot; I gave away some, and left several small lots to be paid for if sold. Since then I have shipped over 2,000 lbs. to that city at good prices.

All we want to sell extracted honey is to produce a good article, place it out in the retail trade packed in good style, stop adulteration, and it is bound to sell. We can afford to sell it lower than comb honey, and we are giving the people something that is far healthier.

Hoopeston, Ill., Nov. 21, 1878.

Conventions.

West. Ill. & East. Iowa Convention.

The fourth semi-annual meeting of the Western Illinois and Eastern Iowa Bee-keeper's Society was held at New Boston, Ill., Oct. 2-3, 1878.

Meeting called to order at 10 a.m. President D. D. Palmer in the chair. Minutes of the last meeting approved as published in the AMERICAN BEE JOURNAL. A committee of three, consisting of L. H. Scudder, E. D. Godfrey and James A. Simpson, was appointed to arrange questions for discussion. Motion carried that the dues of each member, after joining, be paid 25 cents at each meeting, or twice, instead of once a year. A letter from Hardin Haines was read, in which he wished his name to be erased from the Society's books. His request was granted. Adjourned for dinner.

AFTERNOON SESSION.

Admission of new members, the following added their names to the Society :

Jesse Bogart, Eliza, Ill.
J. S. Jackson, Keithsburg, Ill.
H. F. Putnam, Galesburg, Ill.
E. H. Scudder, New Boston, Ill.
Craig Hanna, Gerlaw, Ill.
G. W. Armstrong, Keithsburg, Ill.
Miss Minnie Armstrong, Keithsburg, Ill.
Miss Mary Scudder, New Boston, Ill.
Miss Bell Jarvis, Oquawka, Ill.
Mrs. Craig Hanna, Gerlaw, Ill.
D. H. Westbrook, Lettsville, Iowa.
Mrs. D. D. Palmer, New Boston, Ill.
S. Y. Orr, Morning Sun, Iowa.
A. N. Van Camp, Wilton, Iowa.
W. H. Chase, Moline, Ill.
Mrs. M. E. Benedict, New Boston, Ill.
John Hoover, New Boston, Ill.
C. O. Perrine, Chicago, Ill.
Wm. A. Dustin, Princeville, Ill.
Thomas Dunn, Alexis, Ill.
Mrs. T. Shaw, Monmouth, Ill.
Miss Maggie Derr, Keithsburg, Ill.

An address of welcome was read by L. H. Scudder, of New Boston, as follows :

Mr. President, Ladies and Gentlemen:

It is with pleasure we welcome you. Our little city is not famous for its palatial residences, or huge piles of brick and mortar, but our citizens are wont to boast of the fact that New Boston was surveyed and platted by one whose name will be revered by millions yet unborn—I refer to our Martyr President, Abraham Lincoln.

I see before me to-day many familiar faces, and some who are at present strangers to us, but we cannot long remain strangers when a common interest binds us together. The question naturally arises, why are we here ? Do we come here to gather in a few crumbs of knowledge and then silently depart ? Far from it, rather let us be governed by the most liberal sentiments, rendering if possible full compensation for every valuable thought. In this way, and this only, can our chosen pursuit, "Apiculture," attain that degree of perfection we desire to see. Our little workers in their search for hidden sweets render a full equivalent for all their stores by imparting increased fertility to the varied plants they visit—so too can we, by a free exchange of thought, be mutually benefited.

"The honey-bee that wanders all day long,
The field, the woodland and the garden o'er,
To gather in his fragrant store,
Humming in calm content his quiet song,
Seeks not alone the rose's glowing breast,
The lily's dainty cup, the violet's lips,
But from all rank and noxious weeds she sips
The single drop of sweetness, closely pressed
Within the poisoned chalice—"

Thus, if we seek only to draw forth the hidden sweet
In all the varied human flowers we meet,
In the wide garden of humanity,
And like the bees, if home the spoil we bear,
Hived in our hearts it turns to nectar there.

We believe that apiculture is yet in its infancy. When we note how much has been done in a very few years, can we not reasonably hope for much more ?

The old log gums have not all passed away, neither have the old "fogies" who belong to the same age, but cannot long survive the deluge of light continually thrown over our land by THE AMERICAN BEE JOURNAL. Would we had more like it.

Time reminds me we have work to do, and I will not further trespass on your time. Thanking you for your kind attention, I will once more bid you welcome, *welcome to our city.*

The committee on questions brought in the following :

In what shape shall we put up comb honey for market ?

T. G. McGaw. I would use what is called the prize box.

C. O. Perrine. It depends very much on the market you sell in. We used to be glad to get honey in any shape, got it in churns, tubs, sugar troughs, etc.; we had to boil, stir and mix ; later a change was demanded, honey was then cut out and repacked, very little difference as to how it was put up. The majority of comb honey should now be put up in the prize box. Dealers prefer to glass the honey themselves ; large producers might glass their honey with profit.

D. D. Palmer. Would it not, on the whole, pay to glass.

C. O. Perrine. Distance of shipment, and amount of handling, makes much difference. Glass adds much to freight, in long distances, as from California. Have had comb honey packed with combs running lengthwise of the car, come through with but very little breakage. A few cases here and there. Ship only those sections which are well secured. Would put any open space in the sections at one side, rather than at the top or bottom. Careful packing *pays well.* I would suggest a wide patch of wax be put on every side of the section, which would, I think, cause the bees to fasten each comb all the way around.

D. D. Palmer. Is there any way of shipping honey safely other than by packing solid in a car ? How about the swinging platform, springs, rollers, etc.?

C. O. Perrine. The California honey was packed as tight as possible ; cars roll backward and forward of themselves. I prefer the common car for shipping honey. Would suggest that four to six shipping crates be packed in one bundle, flat; one alone is too light ; they get jammed worse, and being handled by hackmen and others are not kept right side up. Put handles to case of four or six crates; it takes two men to handle it, gets handled better, and kept right side up. Advise the shipper to load his honey into the car himself. Producer to dealer, and dealer to small dealer; we all want to do it right.

What is the difference in price between comb and extracted honey?

C. O. Perrine. About one-half, usually. Dealers prefer extracted honey in barrels. I would recommend small sales at home in one and two pound bottles. I think the trade in extracted honey is getting better. I advise bee-keepers to work up their *home markets*. My house needs mostly white honey; don't care as to taste, only *color*. White honey is what the trade demands and pays the most for.

L. H. Scudder. I am satisfied we must have a small package, and in most markets it must be white honey. White honey is nearly always the poorest article. I would always use tin separators, then our honey will be ready for any market, glass or no glass. I would rather cross the world with honey in bulk, than to ship a short distance and have the railroad men handle it.

Is there any difference in quantity of honey produced by the separators?

L. H. Scudder. I don't think there is any difference. I would not remove all the sections from a hive at once, but take off a part at a time, thus keeping the bees always up there at work.

D. D. Palmer. I have been watching this item of boxes for years. I used to think the 6 lb. box best; then came the Harbison box; our Yankees in the East set their wits to work to beat it and they *did it*, and we have the prize box as the result, which I prefer for all markets.

How can we raise the most honey in marketable shape?

D. D. Palmer. Some propose next year to cut out the combs, smash up and strain.

M. Wirt. I can get the most honey in the 6 lb. box by tiering up. As fast as the first tier gets near full, raise it and put another under. I think I nearly double my yield by this way.

Geo. Bischoff. I get the most honey by tiering up, no matter what box I get it in.

L. H. Scudder. I think those remarks are calculated to mislead beginners. Tiering up soils the comb by the bees traveling over it. I think we can never get nice, white, clean comb honey by tiering up.

Geo. Bischoff. I take off the upper box as soon as the bees get well to work in the lower ones, and the honey is not spoiled.

D. D. Palmer. Boxes will not be filled as full by tiering up.

C. O. Perrine. With the section box we can *tier out* and get all combs full; by tiering up, we cannot.

D. D. Palmer. I would always use comb-foundation in surplus boxes, and prefer it to natural comb for starters. The most honey can be got, and the easiest marketed, by extracting. A word of caution to beginners; don't extract honey till it is nearly all capped over.

What is the best location for an apiary?

E. D. Godfrey. As near a grove of basswood trees, in a white clover region, and fall bloom, as possible.

C. O. Perrine. No location at all, keep moving, keep tramping, if you can't tramp, boat it. My success with the boats has only been partial; we did well on the willow, which I consider the best honey plant in the South. There is plenty of white clover, but there seems to be no honey in it. I intend to make a better report next year, for I am going to *try it again*.

D. D. Palmer. Locate where you can have plenty of bloom the season through.

Which is the best way to increase, natural or artificial?

C. P. Dadant. I would prefer the artificial, for in that way the bees are perfectly under our control.

L. H. Scudder. I agree with Mr. Dadant. We not only get the best bees by artificial swarming, but we get them just when we want them. I would use plenty of comb-foundation.

D. D. Palmer. In the spring we have a lot of strong colonies, run these for box honey, the light ones run for new queens, and get them strong by the time of the fall run.

C. P. Dadant. We do best by dividing the less stronger colonies. If we divide the lighter ones in the fall, we can give them frames from the stronger ones.

Jas. A. Simpson. I prefer natural swarming. When a hybrid swarm comes out, let them settle; then take a fertile queen from a nucleus and give to the old colony. Then hive your swarm, and both will go ahead at once.

How shall we prevent the rearing of too many drones?

C. P. Dadant. Cut out all drone comb, and replace with comb-foundation.

E. D. Godfrey. In the spring, go through every colony, by changing over to other hives; cut out all drone comb and refill the spaces with worker comb, cut from others. Where I have a hive with no drone comb, I find I am bothered less by swarming. A queen not more than two years old will not bother by laying drone eggs in worker cells.

L. H. Scudder. If all colonies in the yard are deprived of drones but one, will not the drones from that one disseminate all over the yard.

C. O. Perrine. In rearing only a few drones we should try to raise them from our choicest queens. If you intend to raise your own queens and drones, raise early by feeding.

A. N. Van Camp. Is it a benefit to thus deprive a colony of drones?

By several—Yes.

L. H. Scudder. The reason for this cutting out of drones, is to get rid of their eating so much honey and soiling the combs.

C. P. Dadant. Two drones during their lifetime, will eat as much honey as three workers. I think it a benefit to cut out drone comb.

Dr. I. P. Wilson. The trees along the river are full of black bees, and I think we are going to deteriorate our bees by allowing them to mix.

The best fall preparation for winter, and the best way to winter, in-doors or out.

D. D. Palmer. I take but little pains as to how I winter, have had good success with any way. If the cellar is damp, give more attention to ventilation; do not fasten the bees into their hives, and have strips of tin nailed over the entrance to prevent mice gnawing in.

C. O. Perrine. The age of bees has much to do with successful wintering; it is very essential that we have young bees for winter.

L. H. Scudder. I think we can have too much honey in the hive; I prefer to have one or two empty combs in the center at this time of year for the queen's use. I prefer a house for wintering bees.

T. G. McGaw. There are three requisites for successful wintering, plenty of young bees, which is the fall work towards wintering, plenty of honey, and keep dry. I use a dry cellar, and I very seldom lose any.

Dr. I. P. Wilson. I think it a very important item to cut holes through the combs to allow the bees to pass through instead of over.

T. G. McGaw. I never take my bees out for a fly during the winter. Think a hole in front of the hive above the entrance a valuable thing.

D. D. Palmer. I have four windows to my cellar, two north, two south, can open at will, have screens outside, space packed with straw. If a warm day comes, at night open the windows, and close in the morning.

L. C. Meadows. I winter out-doors, put a large box over each hive to shut out light. If a warm day comes, then I take the boxes off and let the bees fly and replace when it becomes cool again. It works well.

Will it pay to use comb-foundation in the brood-chamber; also, will it pay, or injure the sale of comb honey to use comb-foundation in the surplus boxes?

C. O. Perrine. I had better success when I used comb-foundation than any other way. The shallow frame seemed to do the best with foundation. I agree with the praises of it in the BEE JOURNAL. Would suggest the use of narrow strips as guides. I can use it best in weak colonies. Its full average weight should be about 3½ to 3¾ sheets per pound. There is a great difference in beeswax. Want to get it as light colored as possible, and the harder, more flinty we get it the better the foundation. Would not put much in the sections; not over ⅛ to ½ inch as starters. I think a "climber" or a strip of narrow foundation from top to bottom of a few sections in each case, is a good thing. Would advise the use of drone comb-foundation as starters in sections.

Geo. Bischoff. I think it does pay; I like it very much.

C. P. Dadant. I differ with Mr. Perrine a little, would prefer 4½ to 5 feet to the pound. Wax not well cleaned, is more apt to sag. Advise about 6 inches deep for the brood frames.

C. O. Perrine. I would advise all to save their partly-filled sections to put in the center, one or two will cause the bees to begin work in the sections very much quicker.

D. D. Palmer. I find my bees take to foundation more readily than to natural comb. Mr. Hoge says, fill sections full of foundation.

C. O. Perrine. There *is a fish bone* in honey built on full sections of foundation. I find it so in all I have handled, and would not use full sheets of it in the sections.

EVENING SESSION.

This evening was to have been devoted to a lecture on "Honey" by Mr. O. Clute, of Iowa City, Iowa, but a telegram was received from him saying it was impossible for him to get here.

What is the best method for shipping bees to ensure safety?

T. G. McGaw. If it is warm weather, extract nearly all the honey; put wire cloth over the entrance, tack a strip of wood across the top of the frames; take off the carpet or honey board; fasten the cap down; bore at least a dozen holes in cap, and cover with wire-cloth; the bees will leave the combs and cluster in the cap, and if the comb breaks down the bees are safe. If in the winter, and old combs, leave 15 to 20 lbs. of honey; such generally go through safely.

What are the most convenient dishes for honey on the table?

D. D. Palmer. Would use the common glass pitcher for extracted honey. For comb, a low, closed glass dish. For winter when there are no flies, almost any dish is suitable.

The use of honey in preserving fruit, making jelly, etc., in the place of sugar.

L. H. Scudder. Wife made peach preserves put up in honey, persons ate of it and could not detect its being made with honey.

Jesse Bogart. Our family use it extensively, and like it very much.

Mrs. Jas. A. Simpson. For some things I like honey as well as sugar. I don't like buckwheat honey, and some other kinds.

Are not bees more liable to deposit pollen in worker comb in boxes, than in drone comb?

H. F. Putnam. I have never seen it in drone comb, but they are very apt to do it in worker comb.

C. P. Dadant. I never saw pollen in drone comb.

How shall we prevent the melting down of combs in hot weather?

Will. M. Kellogg. Paint all your hives as *white* as you can get them, ventilate the cap well, give a good wide entrance and the combs will stand a great amount of heat and not melt down.

E. D. Godfrey. I used to think I must have hives of different colors, till my dark colored ones melted down. Nothing but white for me hereafter.

C. P. Dadant. Were the hives in the sun?

E. D. Godfrey. Entirely so.

R. Lord. I had 20 melt down that stood in the sun, with those shaded I had no trouble.

E. D. Godfrey. Did air circulate freely?

R. Lord. No, trees and bushes kept it off.

Jas. A. Simpson. When it gets excessively hot I raise the cap to my hives, it is almost as good as shade.

The making of comb-foundation.

L. H. Scudder. It is a tedious job. We first melt the wax, it must not be too hot; have a can of cold water, put the plates into water, then into the wax, drip, and into the water again; then peel it off. We use starch to keep it from sticking to the rollers. Mr. Scudder exhibited a 5 inch foundation machine.

C. P. Dadant. We use glass plates and dip from both ends.

The most suitable place for a hive to stand?

Jesse Bogart. I prefer the shade of trees to any other place.

Will. M. Kellogg. Would put all my hives right out in an open space where the sun and air could strike them. Use artificial shade. This year used a shed made of lath, put up in sections so as to be easily taken down. I like this kind of shed very much.

When to sow white clover.

C. P. Dadant. Sow it on snow in spring.

C. D. Bent. Sow in spring after snow is gone, with other grass. It grew well with me. I kept weeds down by mowing.

C. P. Dadant. We pasture it to keep weeds down.

L. C. Meadows. Have sown it in August and first of September, and had it do well.

SECOND DAY'S SESSION.

Placing hives near together.

Dr. I. P. Wilson. Where hives are placed near together, I think that different colored hives are a great advantage.

Jas. A. Simpson. I have never tried the house apiary; have seen it; don't think it successful; am troubled by various kinds of insects. I think bees notice color on front of hives.

The election of officers for the ensuing year, resulted as follows:

President: L. H. Scudder, New Boston, Ill.; Secretary and Treasurer: Will. M. Kellogg, Oquawka, Ill.; Vice Presidents: E. D. Godfrey, Red Oak, Iowa; T. G. McGaw, Monmouth, Ill.

What is the best way of dressing for handling bees?

Dr. I. P. Wilson. I put my pants into my boots, wear light-colored clothing, tight wrists, and a black bee veil fastened on my hat; I do not use gloves.

C. P. Dadant. Wool is very objectionable in clothing for wearing among bees.

D. D. Palmer. I find that light colored clothing is the best.

Dr. I. P. Wilson remarked that the smell of bee poison attracts large quantities of angry bees.

The drawing of prizes.

Twenty-two prizes were then drawn by the members present.

How to relieve the pain from bee stings.

D. D. Palmer. The best is to remove the stinger as quickly as possible, especially by rubbing at once.

L. H. Scudder. I think the scent left on a man by handling horses is very objectionable to the bees.

Dr. N. H. Derr. Scrape the stinger out immediately, and press a key over the poisoned place.

E. D. Godfrey. Some people cannot get used to bee stings, and swell extraordinarily.

Will. M. Kellogg. After removing the stinger, apply soda, moistened to a paste with water. After being stung hundreds of times for years, the swelling is now scarcely noticeable, and the pain likewise, though it used to swell on me fearfully. I now use no remedy except to extract the sting.

Do bees fasten combs to the separators and can separators be used more than one season?

D. D. Palmer. I don't know, but think that the tin might be soiled so that the bees would attach their combs to it.

L. H. Scudder. I do not think so. If they do attach their combs in a few places, wash the tin in soap suds, and it will be as bright as ever. Rusty tin is very apt to have comb attached to it.

Clipping queen's wings?

Dr. I. P. Wilson. I had several queens clipped so that my wife hived the swarms, by picking up the queens and placing the new hive in the place of the old one. Think it a good plan.

L. H. Scudder. I don't agree with this, when it is used in large apiaries. Think that queens are lost.

E. D. Godfrey. I cut every queen's wing as soon as fertilized. Have had no inconvenience such as loss of queen, in only a few cases: the queen remained under the hive for several days. I think the plan saved me many swarms.

D. D. Palmer. I don't think it will work on a large scale.

L. H. Scudder. I knew of a swarm going off and leaving a clipped queen in the hive.

Will. M. Kellogg. I clip every queen I find, that is fertile. If now and then I lose a queen, it is much better than to lose a good many whole swarms.

Will bees force the queen to swarm, or will she go willingly?

C. P. Dadant. I think that usually the queen comes out willingly *i.e.* with a rush, as the bees do, but I know of instances where the queen could not go, being caged in a queen yard, and the bees killed her, and raised another to swarm.

D. D. Palmer. I have seen the bees push and drag the queen out often.

L. H. Scudder. The queen frequently comes out among the last, but willingly.

C. P. Dadant. Huber describes swarming as a result of the anger of the queen at the sight of raising queen cells.

Does a bee die immediately after losing its sting?

By several, No.

D. D. Palmer, spoke of a case where

Chas. Dadant was stung by a bee while in bed; the next morning the bee was found on the window trying to get out.

Dr. D. G. Campbell. I have kept bees two days alive without stingers.

When a colony of bees try to swarm, is it the more profitable to allow them to do so, or to cut out the queen cells, and return the bees, when honey is the main object?

Dr. N. H. Derr. If it is an early swarm keep it; a late one, return.

Jesse Borgart. I think it useless to cut out queen cells, as the bees will swarm any how, sometimes with only an egg in the queen cells.

Will. M. Kellogg. Have found that I usually get more honey from the old and new colony, than I do from the old colony alone. In cutting out queen cells to prevent swarms coming out a second time, many do not cut close enough. You must not only cut out all the queen cells but all the little cups of queen cells that may be started.

Moving bees, what effect has light, warmth, or noise?

D. D. Palmer. I moved 96 colonies from Kentucky by rail and boat. Colonies were light; I lost none, although I had them several hours in the light. As to noise, I had an instance of bees in a cellar noticing the loud noise of a weight falling on the floor above.

Will. M. Kellogg. I think they noticed the fall of the weight by the concussion. I don't think bees can hear.

C. P. Dadant. I think light objectionable as the bees get tired of trying to go out.

C. O. Perrine. Had a similar experience, and agree with Mr. Dadant.

Floating Apiary.

Mr. C. O. Perrine was asked to give a word picture of his floating apiary, and responded as follows:

What first induced me to go into it, was the want of white comb honey. I can get all I want of colored honey, but want hundreds of tons of white honey for my house. I began the honey business at Cincinnati, in 1865, removed to Chicago in 1869, where I continued the business, keeping many hands at work, peddling direct to the consumer. I wanted to extend my business and did so in the Eastern States, afterward in Europe. I received some lots of very nice honey from California and depended on them greatly for my supply of white honey, but it did not come. I got a big order from Europe, had a great deal of trouble to fill it, and could not do it entirely. Could not get such honey as we wanted to ship there.

We packed comb and extracted honey in jars and had great difficulty from its candying. Boiling honey hurts its flavor. I went into the country to see bee-keepers about getting nice honey by migratory bee-keeping. Going from place to place, could get no encouragement. I went South and found lots of white clover, have traveled in the South considerable. I thought I could make a good thing by planting some seed of good honey plants, so I got $60. worth of melilot clover seed, and *I have it yet.* I tried to get land to plant it on, but could not get it. Then I resolved to try the floating apiary, and began to build two barges. I was kept from starting as early as I wanted to, fully six weeks, by a variety of causes beyond my control. I did not get as many bees as I wanted. Our machinery broke down twice, which threw us back eight days. We were getting behind all the time, so we closed up the hives with wire cloth. Our colonies were very strong, and we lost about 50 by smothering. Owing to lateness of the season I concluded not to go far North and put my bees on shore about 60 miles above St. Louis. My bees are in good condition for wintering. The floating apiary is an experiment yet. I put about $12,000 in the venture, and I shall keep trying till I know whether it will succeed or not. I invite any of you who wish, to come down and see us. I expect to take my bees to New Orleans this winter. I may not bring all my bees North, but keep some down there for experiment. I propose to try the house apiary principle on the boats. I would like to ask some one who knows, if bees notice color more than form. A great many bees get into the river, possibly 25 per cent. The rivers in the South run on ridges, and when the river rises it runs over into bayous and deposits soil, slanting off into the swamps. The little streams all run swiftly. There are many peculiar things about working barges; have to keep the same side of the barge to the shore all the time. I propose to put the bees on the boats this time in cold weather, then they will come out and fly a few at a time. I think bees return to their hives more by form than by color. I have tried different colors. We got but few new swarms, the honey did not come in fast enough. I had a little steamer that cost me $2,900, and sold it at a loss of $900. I thought of going up as far as St. Paul, but owing to difficulties could not do it. I propose to tow my bees only by night next year. My boats are near 120 feet long. I shall wait till the weather is quite cold before I go South.

The exhibit of the products of the apiary, books, tools, etc., at this meeting was very large, and in quantity and quality, would not have done discredit to any State or National Fair.

Adjourned to meet at Hamilton, Hancock Co., Ill., at call of the executive committee.

W. M. KELLOGG, *Sec'y.* L. H. SCUDDER, *Pres.*

Lancaster Co. (Pa.) Convention.

This Association held its regular quarterly meeting at Lancaster, Nov. 11, 1878, Pres. P. S. Reist in the chair.

In the absence of the regular Secretary, Frank R. Diffenderffer was made Secretary *pro tem.*

REPORTS.

Peter S. Reist said that he recently read an article in which honey was recommended for food and for medicine, and which also strongly advised the formation of local societies for the purpose of thoroughly understanding the bee question. The amount of honey raised in this country last year was 18,000,000 lbs. and 700,000 lbs. of wax. The entire honey product of the world is about 35,000,000 lbs.

J. F. Hershey started in the spring with 62 colonies. Now the account stands thus :

		CR.
By sale of 725 lbs. box honey at 20c		$145 00
" 80 lbs. extracted honey at 15c		12 00
" 1 colony		12 00
" 146 Italian Queens		233 60
" 17 nuclei colonies, queen in, on hand		51 00
Total		$453 60
		DR.
To stuff for honey boxes	$10 00	
" postage for queens and letters	3 00	
" to sugar fed to bees	40 00	
		$53 00
Profit of the season's work		$400 60

This is not much for 62 colonies but the spring was not favorable. His bees are all in good condition for winter ; plenty of honey to last till spring.

I. G. Martin reported as follows :

The number of colonies of bees I had under my management in the spring was 19, a few of which belonged to my neighbors and which I managed the same as my own. These 19 increased to 38 colonies, and they stored 912 lbs. of surplus honey, or an average of 48 lbs. for each colony I had in the spring. Of this, 224 lbs. was extracted honey, 686 lbs, was comb honey, most of which was put up in sections of 1¼ lbs. each.

The honey season was rather poor in the early part of the summer. Nearly all my comb honey was gathered from the second growth of red clover, which was between the 20th of July and the 10th of August, after which there was no surplus honey produced. I have sold some of my bees ; so I now go in winter quarters with 29 colonies.

Elias Hershey reported that he had 15 colonies in the spring ; now has 26 ; he got about 400 lbs. of box honey.

D. H. Lintner had 8 colonies in the spring; increased them 100 per cent. He got about 135 lbs. of box honey. They are in good condition for winter.

H. K. Meisky had 16 colonies in the spring and has 23 now. He realized about 300 lbs. of honey.

Jacob Christ wintered 5 colonies last year; out of 3 of them he got 100 lbs. of honey. Two of them did very badly.

Peter S. Reist had 25 colonies in the spring. He had 17 natural swarms, and has realized about 600 lbs. of comb honey. His bees are now in fine condition for winter, nothwithstanding the unfavorable season.

Rev. S. K. Boyes had 2 colonies, 1 black and 1 Italian. He got 30 lbs. of honey from the two. The Italians made nearly twice as much as the other.

John Musselman had 7 colonies and now has 18. The honey yield was small, perhaps 50 lbs.

WINTERING BEES.

I. G. Martin said :

My mode of wintering is on the summer stand by preparing them in the following way : I remove all the frames but 6, and if the colony is not very strong, I take them all out but 5, or even 4, and then I put in a tight division, so that the bees are very much crowded ; then they can keep warm much better. I then make a large box that will give about 3 inches space between it and the hive all around, and 6 inches higher than the hive. The hive is then set in the box and a passage is kept open between the two by placing 2 strips of board, 3 inches long and ½ inch thick, on the bottom of the box—one on each side of the entrance. A piece of board, 3 inches wide, is then laid across the two strips, so that the bees can pass out and in when the weather will permit. The cover is then taken off the hive and 2 sticks, ½ inch thick, are laid across the frames, and a piece of cloth is spread on the frames, covering the whole top of the hive. Then all the space around and over the hive is filled with dry wheat chaff ; then a tight cover should be put on to keep it dry.

I will give a few reasons why I think wintering bees packed in chaff is preferable to any other method. First. The work can be done as soon as the honey season is past, and with small colonies as early as August. Second. It can be done at odd hours, when it will not interfere with other business. Third. The packing prevents the escape of any scent of honey from the packed hives to attract bees from other colonies, hence, if all are so packed, robbing is effectually prevented in the bee-yard. Fourth. The bees have an opportunity to fly at any time during the winter when the weather will permit—an advantage which, we think, no one will dispute. Fifth. There is no carrying of heavy hives filled with honey to and from the the bee-house. Sixth. During the cold weather of April and early May these packed hives will be much warmer than those outside. The bees will spread over more surface of comb, a larger amount of brood will be found there and the colony will increase in size much faster and sooner than it could possibly be made to do if kept at this time on the summer stand without protection by any known process whatever, except it be by the addition to it of bees and brood from other hives. Seventh. After the bees are prepared for winter, they need no more care till the following April, leaving the bee-keeper at liberty to attend to other business for 5 or 6 months. This is, of course, only when good colonies with plenty of stores, are selected for wintering.

The cost of boxes is considered by some who have not used them an objection to their use. A box can be made of good pine lumber, with a good bottom and tight board cover, at a cost of about 60 cents, and if they are put in the dry through the summer they will last for years.

J. F. Hershey has wintered bees in various ways, but never succeeded on summer stands. Bees do not winter in low situations nearly so well as on more elevated ground. He has a regular house where he winters his colonies.

D. H. Lintner winters his bees on summer stands. He takes out all the frames, leaves only combs enough for the bees to cover easily. He hangs some old cloths over the top, and on these he places a board to keep them in place. He has always had good success.

H. K. Meisky winters his bees on a summer stand. He has tried nearly every plan, but likes the summer stands best.

P. S. Reist, after trying all the various plans recommended, has concluded leaving the bees on their summer stands as the best. He covers them with blankets, but nothing else. He recommended some covering.

DO BEES DESTROY FRUIT ?

J. F. Hershey watched his bees closely this summer. He took a bunch of grapes, dipped it into some honey and put it into a hive ; the bees removed all the honey but left the grapes untouched ; he left them for days. He also cut the skins of grapes, after which the bees abstracted the juices, but they did not go at the sound grapes. He also exhibited grapes that had lain in a hive of bees 41 days and they were never touched. His bees are Italians.

S. R. Boyer has studied the natural history of the bee. His neighbors have frequently complained of his bees destroying their grapes, but he watched them closely and he never saw them injure a single grape. He has known persons who actually trapped bees and killed them. He thought this both a sin and a shame.

I. G. Martin watched his bees closely this summer. He took a bunch of grapes, bruised them, when they were immediately covered with bees who eat them. He then removed the crushed grapes and put whole ones in their place ; after running over them and finding no open fruit, they gave over their search and left.

H. K. Meisky had a grape vine close behind his bee stand. He watched his grapes by the hour and never saw a single one torn open by the bees.

Elias Hershey has also watched them but could detect no damage done by them.

Frank R. Diffenderfer said : Up to September 30th there were no broken or bursted grapes on his vines, and as he expected, no bees. On the evening of that day, however, there was a rain, followed by a hot sun on the following day. A good many grapes split open in consequence, and in a few hours the bunches were covered with bees, for the first time during the season, hunting out the broken grapes, and, as usual, molesting none of the sound ones. A careful watch revealed no depredations by bees on grapes that were not first injured by some other means.

The unanimous opinion of the persons present was that the bees do not tear open and destroy fruit.

IS THERE SUCH A THING AS BEES FREEZING IF ORDINARY CARE IS USED ?

S. R. Boyer once thought they did, but he has changed his mind completely. They become dormant sometimes as to be seemingly dead, but a change in the weather revives them. Keep a colony dry, hang it up or let it stand, and it will never be injured by cold.

J. F. Hershey does not believe bees will freeze in the hive, but he has seen them get dormant, and in that condition, being unable to get at the honey, they starved—starved not frozen.

D. H. Lintner had a colony that congregated at the bottom of the hive over night, in the morning they were all lying on the ground seemingly dead ; he took them into a warm room, when they all revived.

J. F. Hershey had a similar experience. In this case, thinking they were dead, he threw them into the snow, but taking up the queen she gave signs of life ; he then scraped up the rest and they revived when fed.

It was generelly agreed upon that bees starved oftener than froze. They can grow cold and freeze between two combs of honey—honey is itself cold enough to freeze them. They must have means to keep themselves warm besides honey itself. It was however stated that bees sometimes are frozen when filled with honey.

WHAT ARE THE ADVANTAGES OF COMB FOUNDATION ?

J. F. Hershey read a short paper on this question. There is a great gain in using comb foundation, one-fifth of the labor being saved. The great advantage is that if such a foundation, 12 inches square, is given to a colony, over 2,000 bees can go to work at once to draw out the cells. On the other hand if an empty frame is given to them only 5 or 6 bees can go to work until the comb is started ; in 5 or 6 hours, perhaps 75 more bees can get to work and so each hour the number is increased until the frame is filled. It is thus seen how much time is saved by the use of the foundation. A stright comb is insured in every case.

I. G. Martin agreed with Mr. Hershey. He has tried the comb foundation and has had excellent results. In 24 hours the bees can have complete combs. They can all get to work at once and press forward their work rapidly.

On motion, the meeting adjourned to meet again the second Monday in February.

P. S. Reist, *Pres.*
F. R. Diffenderfer, *Sec. pro tem.*

Southern Kentucky Convention.

This Association met at Horse Cave, Hart Co., Ky., Nov. 1, 1878. After reading the minutes of the last meeting and attending to the routine business, a discussion was inaugurated upon

INTRODUCING QUEENS.

Mr. Greer said he had successfully introduced queens by the following method : Catch the old queen and remove or kill her, then smoke the bees until they are all subdued, turning the queens loose in the hive ; he had put in five queens thus in one day without loss.

Mr. Smith would cage the queen, put in a hive between brood comb and release her in 24 to 48 hours.

Mr. Munford said hungry bees would kill a strange queen ; he would smear the queen with honey before releasing her.

The President preferred to cage queens unless all the bees were young ; if hatching brood was removed to a new hive and the queen put in, there would be no danger of her being killed, but that could only be done in very warm weather.

ELECTION OF OFFICERS.

Dr. N. P. Allen and W. Cook were nominated for President. Dr. Allen did not want the place, said he had served the association as President since its organization, and hoped the members would vote for Mr. Cook, who was accordingly elected. Dr. Allen was elected Secretary, and Mr. W. W. Wright, Treasurer.

The following Vice Presidents were elected: R. S. Munford, Hart Co.; N. H. Holman, Barren Co.; T. McGoodnight, Allen Co.; W. L. Dulaney, Warren Co.; T. E. Shelton, Logan Co.; J. G. Allen, Cumberland Co.

The time and place for holding the spring meeting of this association was then voted upon, and Gainsville, Allen Co., was selected as the place, and the first Friday in May 1879, as the time.

The Committee on the state of bee culture reported as follows: From the information before us, we conclude that the past season has been a very poor one, with but little increase, and the honey crop almost a failure. We are satisfied that hundreds of colonies will perish during the coming winter, unless fed. We advise all to examine and give them the necessary care.

The Committee on apiarian supplies reported as follows: We would respectfully report the following articles on exhibition: From Thomas G. Newman & Son, honey jars, Van Deusen' bee feeder, and books, all of which we would recommend to bee-keepers.

Dr. N. P. Allen exhibited Bingham's smoker, which we heartily recommend, also comb foundation made on a machine of his own manufacture, which he sells at $1.00. It seems to be as good as foundation made on $40 to $100 machines. The foundation and machine we would recommend to bee-keepers.

J. W. Elder has a section bee-hive on exhibition.

The Treasurer, Mr. W. W. Wright, submitted a report showing $2.05 in the treasury, which was approved.

On motion, the convention went into the discussion of questions according to the programme.

WHO SHOULD KEEP BEES AND HOW SHOULD THEY KEEP THEM?

Dr. Whitlock opened the discussion with an earnestness that gave life and ambition to the subject. Among the many good things he said, an ignorant, lazy, or a high, tempered man should not keep bees, only intelligent and industrious men and women would make bee-keeping a success. As to how they should keep them, he said in movable frame hive, near the ground, with saw dust around the hive, and a lighting board to reach the ground; he preferred the Langstroth hive.

Mr. Cook followed with a short and stirring speech. Said farmers and all professional men should keep bees, but there were some so careless and negligent that they could have no luck; said these "bad-luck" fellows could raise no corn, the hogs would get in and destroy it; could raise no wheat, for the cattle would get in and destroy it all, for the want of good fences to keep them out; bees were eaten up with moth on account of old box hives, with cracks and openings in them. He said to keep bees right we should have good frame hives, made of well seasoned stuff, and by a good workman; the poor man should keep bees to furnish his table with a sweet morsel, and make his wife and children happy in the enjoyment of one of God's greatest blessings to man. He said there was a spark of intelligence in all of God's creatures, and that bees could be trained to know a white hat from a black one, to know their owner, etc.

HAS A MOTH-PROOF HIVE BEEN INVENTED?

Dr. Whitlock said there had not.

R. S. Munford said he had his hives made of seasoned lumber, by a good workman, and all the cracks and corners inside sealed with rosin and beeswax; said the moth fly deposited her eggs on the outside of the hive, and when the moth worm hatched, it crawls in at the entrance of the hive, unobserved by the bees; the said fly never entered the hive.

Dr. Allen said he thought friend Munford was certainly mistaken, as the moth miller can be seen entering the hive and is often found inside the hive of weak colonies; that the moth egg was deposited on the combs in the bottom of the cells; and that he believes the moth egg was often deposited in the flowers and carried in the hive with the pollen gathered by the bees.

TRANSFERRING BEES.

N. H. Holman, the alternate on that question, gave in a few appropriate sentences, his mode of transferring.

OVER-STOCKING.

The Secretary read the following essay: As this subject has never been discussed before this association, I know of no better method of bringing it intelligently before you than giving my individual experience. When I had but few colonies of bees I got more surplus honey per hive than I did after increasing them to a larger number, say from 50 to 100. I am fully satisfied that we can overstock our bee pastures, as well as our clover and grass pastures. and none will question that this can be and is often done. I am aware that during our poplar and white clover harvests, especially in some sections, that it would require a very large number of colonies to gather the honey in reach of the apiary, from the millions of flowers that bloom in our fields and forests, but, as this great flow of honey lasts but a few days, or weeks at most, it would be unwise, to say the least of it, to have in an apiary a larger number of bees than would be able to gather a sufficient amount of stores to keep up brood-rearing to a minimum point during the warm season. It is well known by all specialists in bee culture that during the early spring and summer months that there is often but little to be gathered from nature's flora, and that where bees are collected in very large numbers that they lose much valuable time in visiting flowers already robbed of their stores. It is an admitted fact by our largest bee owners that a given point can be overstocked, and they have their bees in separate apiaries. I am satisfied that the more bees we have in one place the less amount of surplus honey we will get per hive; that is my experience. Then I would advise, if we have a large number of colonies, that we place them in separate apiaries, as that will give us much more satisfactory results, in surplus honey or increase of colones.

BEE HIVES.

On motion, Mr. Elder, of Breckenridge county, was allowed ten minutes to speak of the hive which he had on exhibition.

Rev. Eli Owens, of Barren county, explained the Golden Bee Hive.

WHICH WILL PAY BEST, COMB OR EXTRACTED HONEY ?

Dr. Allen. It depends very much on circumstances which would pay the best; depending altogether on the shape the honey was harvested in, and the distance and cost of transportation to market; he said comb honey in large boxes was a drug in the market, but in neat 2 lb. boxes would sell readily and bring five cents per pound more than boxes holding 6 to 20 pounds.

HOW TO WINTER IN THIS CLIMATE,

Was argued by Mr. Reynolds and Mr. Munford, and it was agreed that out-door wintering was the best, giving upward ventilation, with top story filled with sawdust, chaff or leaves, and that every hive should have at least 20 lbs. of honey and that weak colonies should be doubled so as to secure sufficient warmth to keep the bees from freezing in extreme cold weather. Plenty of stores, plenty of bees, and keep them dry, with upward ventilation, were points conceded as essential to successful wintering.

COMB FOUNDATION.

The Secretary read the following essay: Comb foundation is a valuable addition to the apiary. It is made of pure beeswax and is fastened in the frames for the bees to build the cells upon, which they readily do when given them during the honey harvest. If the foundation is thick enough they use the wax in building the cells, and save the honey which they would have used in producing the wax by the natural processes. Comb foundation was first invented by the lamented Samuel Wagner, the founder of the AMERICAN BEE JOURNAL, and I believe was patented by him. At first it was difficult to get moulds that worked satisfactorily; after awhile a machine was invented, and it was manufactured and used at first sparingly, but proving to be so valuable, was soon used extensively, some manufacturers selling thousands of pounds of it per annum. Comb foundation machines are now offered in the market at from $40 to $100. Some use metalic plates for making it that cost but little. I have succeeded in making a mould that costs but little and turns out a nice article of foundation, some of which I present you for inspection. The mould is dipped in melted wax and the foundation is removed and the mould wet and dipped again. I can, in an hour, mould 5 to 10 lbs. of wax. I use my own wax, taking care to have it pure and clean. It is true the cells are not so perfect on one side of it, but the bees seem to accept it as readily, and work it as rapidly as foundation made by machinery. Every one should use it, especially for starters in boxes. I know by my own experience it will pay to use it. Some have complained that it would injure the sale of comb honey as it would be noticed and objected to by consumers, but that is not the case, according to my experience. I recommend its use in surplus honey department, but can't say I would for the brood chamber, as it will sag in extreme hot weather. Some make the foundation on fine linen and on fine wire cloth, and if the bees will accept it, I am of the opinion it would prove a success in the brood chamber. All should try it and see for themselves. Get a mould and work up your own wax and save money.

BEES EXEMPT.

Dr. N. P. Allen offered the following resolution, which, on motion, was unanimously adopted:

Resolved, That it is the sense of this convention that every man in the State of Kentucky ought to be allowed as many as 4 colonies of bees not subject to execution and sale for debt, and that the President shall appoint a committee of three to bring it before the next Legislature of Kentucky and urge its passage.

The President appointed the following committee to carry out the resolution: W. L. Dulaney, N. P. Allen, I. N. Greer, J. R. Mosely and J. Adams.

The following committees were appointed:

Committee to prepare programme for next meeting, to print and distribute the same—W. T. Sears, James Erwin, W. L. Dulaney and W. W. Wright.

Committee on arrangements for next meeting—T. M. McGoodnight, Henry Moore, J. Erwin and W. L. Sears.

Committee on apiarian wants and supplies for next meeting—N. P. Allen, D. S. T. Botts, J. L. Garvin and J. L. Smith.

The Secretary offered the following resolution, which, on motion, was unanimously adopted:

Resolved, That the thanks of this convention be tendered the citizens of Horse Cave and vicinity for the use of their church to hold the meeting of this convention, and to Bro. J. L. Smith and lady for the sumptuous dinner furnished on the grounds.

On motion the convention adjourned to meet at Gainsville, Allen Co. Ky., on the first Friday in May 1879, at 10 o'clock a.m.

N. P. ALLEN, *Sec.* W. COOK, *Pres.*

Cedar Valley Convention.

This Association held its regular meeting at Waverly, Iowa, Oct. 26, 1878, Thomas Lashbrook, Vice President, in the chair; John Bird, Secretary *pro tem.*

Mr. Schofield, of Nashua, said that bees wintered out of doors consumed ⅓ more honey than those wintered in cellars. He put inside tier up to floor, then another tier, with an alley of 2 feet between. Advises returning hives to same place occupied previous year. Cellar should be dry, dark and quiet. Uses a straw-lined hive and mats on top.

Mr. Brown, of Waverly, has tried all ways and finds it difficult to succeed every winter with any one way. Thinks carrying lights in cellar does not damage bees. Uses all kinds of hives—tall, long, short, and wide. Can see no difference in wintering. Thinks best to put bees in cellar early, setting the hives quite slanting. No upper ventilation. Don't advise giving bees winter flights.

Mr. Lashbrook, of Waverly, said that he sometimes failed in same plan that was successful at other times. Attributes this to the different conditions of bees. Advises putting in cellar and keeping water in cellar. Thinks it absorbs the moisture.

Mr. Tracy, of Pearl Rock, wintered 24 colonies. Weighed them 1st of Nov. last, and those put in cellar then consumed during the winter 9 lbs. of honey. Some put in cellar the last of November consumed 13 lbs. of honey. Others put in cellar 1st of January consumed from that time 9 lbs. of honey.

Mr. Sturdevant, of Waverly, puts bees in cellar early in Nov. and ventilates freely from above. Has good success.

Mr. Collins, of Waverly, uses American and Langstroth hives. Winters in cellar. Gives plenty of upward ventilation, often taking off honey board and boxes. Prefers the Langstroth hive.

Mr. West, of Plainfield, winters in cellar. Has, when bees became uneasy, put wire cloth over entrance, but does not like the plan. Does not believe in fastening the bees in hive, or in much upward vintilation.

Mr. Findley, of Waverly, has had good success in wintering bees in cellar. Gives plenty of upward ventilation.

Of the different kinds of bees M. E. Schofield said he preferred the Italian to the black bee. Are more peaceable and better workers, though they dwindle more in spring than the black for the reason that they are more anxious to get out when the weather is not suitable. With his management can see no difference between black and Italian bees about working in honey boxes.

Mr. Bowen prefers the Italian to black bees. Italians store more surplus honey.

Mr. Lashbrook prefers the hybrid to either for honey. The nearer pure Italian the more peaceable the bee. Prefers the Italian to the black bee.

Mr. Tracy has kept no pure Italian bees, but has some hybrids, and found during the past season that the black bees have done best, storing more honey in boxes.

Mr. West prefers the Italian bees.

Mr. Lashbrook does not like the general use of the honey extractor and would only use it as a tool in the apiary.

Mr. Bowen agrees with Mr. Lashbrook in the use of the extractor.

Meeting adjourned.

THOS. LASHBROOK, *Chairman.*
JOHN BIRD, *Sec. pro tem.*

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☞ Never undertake to keep many bees until you have become familiar with their nature and habits.

N. E. Wisconsin Convention.

[The full report is published in a pamphlet; by request, we give the following condensed report.—ED.]

On September 3d, 1878, the meeting was called to order at De Pere, Wis. After reading the constitution and hearing the Secretary's report, new members were admitted.

After the President's address, which was listened to with interest, the following paper by Edwin France, of Platteville, was read, on

WINTERING.

I have always wintered out of doors. I first used the Metcalf hive, 12x12 inches, 8 frames, 17 inches high; but after repeated losses in winter I came to the conclusion it was too small, and not sufficiently protected for winter. I then made a hive 28 inches square; put in a stationary partition one way, thus making a hive 28x31½ inches, 21 inches high, with movable ends. That gives room for as many frames as a colony of bees can use. To winter, set the frames in the center—usually 10 frames; put in movable partition boards, and fill in at each end with straw, also overhead with straw or chaff. See BEE JOURNAL, June No., page 184. I think I have a good chaff hive.

I am satisfied that a tall hive is much better to winter in out of doors, as the honey will be mostly over the bees, and the warmth of the bees will allow them to follow it up as they use it; when, if they were in shallow hives, they would often eat their way up to the top, and then starve with plenty of honey all around them, in frosty combs, that they could not use until the weather got warmer, enough so to remove the frost, and by that time the bees are dead. But, for comb honey, if you winter in-doors, a shallow hive, I think, would be best.

SWARMING.

I am a strong advocate of division, or artificial swarming. Usually about the time white clover comes into bloom—from June 1 to 10. Take some of the strongest colonies, and find the queen; if her wings are not clipped, clip them, then put her in a cage. Next, take 2 good brood combs (sometimes I take 1 and sometimes 3, but usually 2), and with the combs, about a quart of bees; put the combs and bees in an empty hive, anywhere in the yard; then put in the old hive as many empty frames as I took combs out, and liberate the queen in the old hive. To another colony I do as before, putting the combs I take out with the others in the new hive. I then work the third colony in the same way, and by this time we have 6 or more combs and bees in the new one. Put the comb snug between the movable partition boards, and give them no empty frame to build comb in until their queen is hatched, for if they build any, it will be drone comb. If there is too much honey, extract it, and that will give them work to do. Go over the whole apiary in the same way, and make as many new colonies as necessary, using the extractor if there is much honey; but I hardly ever use the extractor at the first. Now we are done with this yard for 10 days, or, if it is stormy, it will do for 12 days. If we don't go until 12 days, the first thing when I get there is to open these colonies and cut out the surplus queen-cells—for very likely they are then coming out of the cells—cage them, one queen or cell in a cage, leaving one cell in each hive to mature. Use the extractor pretty freely when the clover is in full bloom ; I go over the whole, as before, making more new colonies, and filling out the new ones made last time, up to 10 frames. Now, we give all the new ones, made to-day, a hatched young queen, or cell taken from those started 10 or 12 days ago, and then leave for 10 days more. In this way I breed queens from the strongest and most prolific colonies and keep the comb building confined to colonies where there is a prolific queen ; consequently I get nearly all worker comb, as I put empty frames into the center of the brood nest, where they build only worker comb. Should they build any drone comb, cut it out and let them try again. I keep all strong and ready for any emergency or check in the honey harvest. As soon as young queens mature and are laying, clip their wings ; when they get a quantity of brood, treat them as old colonies, taking brood combs from them to help make other new ones. A young, virgin queen is more likely to be accepted than a queen cell. This year my bees have destroyed one cell out of three, on an average, while I have not lost a hatched queen by introducing her right among the bees as soon as the colony is finished. Of course I must keep a record of work, a sample of which can be seen in the AMERICAN BEE JOURNAL, June number, 1878, page 185.

PAINTING HIVES.

I used to paint all white, but came to the conclusion that I lost too many of my young queens on their bridal trip—usually about 1 out of 7—when all were white. Now I paint as different as possible—for instance, one all white, one all brown, one with white top and brown body, and one with brown top and white body, etc. I also have a cream color and a brick color ; so with the four colors every hive looks differently from others near it. I scarcely ever lose a queen—this year only 2 out of over 60.

SECTION BOXES.

I think the 4¼x4¼ box is too small, as very few of them get 1 lb. of honey in them, full weight. I like the 2 lb. boxes best ; my bees will fill out the corners of a 2 lb. box better than the 1 lb.

It was a backward spring. My bees commenced to make a little headway June 10th, and did very well up to July 13th, on clover, as there was no basswood this year. No. of colonies in 1877, 100 ; 3 this spring were queenless ; that left me 97 colonies to start with, this spring. Up to July 13th I got 5,000 lbs. extracted honey from 57 colonies and their increase; 1,000 lbs. in section boxes from 40 colonies and their increase. Last year I had 7,000 lbs. extracted, and sold it all at home in our little village of 4,000 inhabitants, and to surrounding farmers, at 10 and 15 cents per pound.

WINTERING BEES.

The Secretary then read the following paper by Mr. James Heddon, of Dowagiac, Mich.:

After 9 years of quite extensive experimenting, I will give you what I think about wintering. I believe there is a winter epidemic. I think it is taken through the honey. I believe it causes us more loss than all other causes combined, twice over. Cold aggravates the disease, much. I consider judicious feeding of sugar syrup, to winter on, a potent remedy. I also consider such feeding too expensive to be practical ; I prefer taking the risk. Were I to establish a new apiary, I should make one building about 14x48 feet, and two stories high, to be divided into apartments for honey room, work shop, etc. Under this I should dig a cellar the full size of it, and 6½ feet deep. I should have an 8 inch double floor, filled with saw dust, or the like, to my building, and have the building set within 8 inches of the earth. I want a stove in one of the rooms above—say in the honey room. I would have a pipe, from within 3 inches of the cellar bottom, running straight up, and going into the stove pipe above. Now, I want a vent hole through the wall out doors, and one through the floor, into the honey room. Put a damper in the pipe from the cellar, just above the floor. Now, when this damper is open, and the stove is active, there will be a draft that will nearly carry up a feather from the bottom of the cellar. If you wish to send warmed fresh air to the cellar, open the trap door in the honey room. This should be large enough to go down through, to save unpacking the outer doors. If you wish to introduce cool, fresh air, open the door ventilator through the wall. Now, don't put but 100 colonies into this large cellar, and you will find yourself able to accomplish that most important object, of keeping your bees cool in a warm time. Such a cellar, so arranged, will also keep a few colonies warm in the coldest weather. Don't take out the bees till all danger of second winter is over. I believe the packing box is a fine thing to spring bees with, but, in your latitude, I should not dare to depend upon it to winter in. It is costly, cumbersome, laborious and mussey, and, unlike the well made cellar, is its bulk worse than a dead loss through the summer, while the cellar is very useful to the honey producer.

The above conclusions have been arrived at, not by theorizing, but by experimenting and observing. Something may develop itself that will far excell the cellar for wintering, but, as yet, I think it has not.

I will mention that so far as I can determine, by experimenting with 100 colonies for 3 years, I can see no importance as to upward or lower ventilation of the hives. I find no use for "cloths," or any "absorbents", about a hive, at any time of year.

You will notice by the last tabular report of the N. E. B. K. Association, that the cellar, for wintering, came off victorious. And how many of those cellars, do you suppose, were so large as to hold the bees quietly, in a warm spell, and so arranged as to keep them at 40° to 45°, in a very cold time ?

I am of the opinion that races, or strains, of bees vary much, in their ability to bear winter grief. If I was buying bees or queens, I should favor those who had good "luck" in wintering, as well as piling up surplus?

BEST TIME AND MODE OF INCREASE.

A paper by Crowfoot Bros. of Hartford, Wis., was read, as follows:

There are several objects in view—such as immediate profits and the surest increase; a very good way for a person who does not intend to learn the business, and for the old-fashioned bee-keeper, who already knows too much in his own estimation, is to let the bees do their own swarming. But scientific bee-keepers know better. The best time to increase bees is when there is an abundant supply of natural forage, and colonies are very strong. Under any other circumstances it is dangerous. Sometimes it works first-rate to take a comb of bees and brood from a hive, about the 1st of June, and let them work up to a colony by winter; but it is unsafe. Again, it will sometimes work very well to divide after the main honey crop is over, if they have honey enough for both colonies. June is usually the best time to increase. Then, if anything goes wrong, there is time to make it right from strong colonies, by taking brood from strong and giving it to weak colonies. For immediate profit, to double them is enough.

PRODUCTION OF COMB HONEY.

The following interesting paper was read by Mr. Claussen, of Mishicott:

The most essential and necessary thing, to raise comb honey, in a favorable season, is to have the colonies you intend to use for comb honey strong in numbers early in the season. To realize this, if the colony has a good fertile queen, you can help them by inserting an empty frame of worker comb into the brood nest, between the brood combs, though never more than the bees can cover well, as this will spread the brood, and induce the queen to greater activity. Feeding them, although they have plenty of honey in the hive, will stimulate them much, so that they can stand the cold snaps better, which we generally have in this climate. If too many empty combs are inserted at once, it will sometimes weaken, aye, even destroy a nice colony, if cold, rough weather sets in. Bees then concentrate, in order to keep up the necessary animal heat, and, consequently, the most outside brood will chill, and, if left in the hive, may, I think, cause foul brood, as the chilled brood and bees will begin to decay, which the bees do not like to remove.

The next point is what kind of a receptacle the bees are given. Section boxes, I think, are superior to any other box or thing that may be put into a hive. To make them work in them, I put some pieces of comb (generally drone), which I cut out of some frames of the brood chamber, where they sometimes build drone instead of worker comb. For this purpose I have a pan with some melted wax wherein I dip the edge of the comb, and paste it to the upper piece of the section. If one has no piece of comb, comb foundation answers just as well, but if one has enough of new comb pieces, I consider them better than foundation; anyhow, they are a great deal cheaper to the bee-keeper. Heretofore I have been using larger sized boxes, that weigh, when well filled, 5 lbs. and over; they are glassed on two sides, and wood on four. But, after visiting the office of the AMERICAN BEE JOURNAL, at Chicago, and in Cincinnati with our brother bee-keeper C. F. Muth, I saw the section filled for the first time. I made some after that and find that bees work in them more readily than in the larger boxes, as they can get into the sections the whole length, whereas the old boxes had only holes bored in the bottom. For another reason I like the sections better, which is in getting out bees after they are filled. It was quite a bother with the old boxes, but the sections can be taken out one by one, and the bees brushed off.

The third and last point is favorable weather from March to October. Frosts like we had in May, have a great influence on bees, for the production of honey, for they spoiled a great lot of blossoms. For example, the basswood or linn, this year had no blossoms, except those that hung over the water, which, I believe absorbs the frosts. If the weather is not favorable, although the bee-keeper may understand his business ever so well, and pay ever so much attention to his "pets," all is in vain.

At 9 a.m. on the 4th, all the bee-keepers gathered at the apiary of Mrs. Dunham, and an informal meeting was held till nearly half past eleven. They found there all the modern improvements, in her neat and roomy honey house, a place for each of them, and each one in its place. Her apiary, of 40 colonies, in nicely painted white hives, with raspberry bushes to protect them from the sun, in connection with her charming residence, with its wide gravel walks and neatly mowed lawn, forms a beautiful picture, in its setting of dark green leaves of oak and hickory, which surround and overshadow her pleasant home, while the cheerful hum of the bright-banded Italians, the merry voices of children, left no idea of incompleteness in their minds, as, after a couple af hours spent in conversation and examination of implements, etc., they returned to the hotel, where Mr. Hart gave the following on the

BEE FORAGE OF WISCONSIN.

I am sorry that I am not better qualified to do justice to so important a subject as bee forage in Wisconsin. It would require a well qualified botanist to do anything like what the interest of bee-keepers would seem to demand, for I hold that persons going into any business should be posted as to the facilities for transacting such business—for instance, if a man is going into the bee business, and is not a judge of the honey resources of his location, he is quite likely to make a mistake, and a serious one.

My remarks in regard to bee forage will be principally confined to north-east Wisconsin, as the limits of our Convention, and most of the information I shall be able to give, if any, will be from my own practical experience, with what I have gathered from other reliable bee-keepers.

First, then, I will say that among the forest trees are the maples, elms, basswood, tamarack and willow; the plants are white clover, alsike or Swedish white clover, and buckwheat; there are innumerable trees and plants of lesser note. I consider white clover and basswood the two principal resources for the apiarist to rely on. If he cannot depend on these, I should think he has made a bad location. I will mention a number of plants of lesser note, and, in some localities, quite productive: Raspberries, blackberries, strawberries, whotleberries, dandelion, thoroughwort, motherwort, catnip, mustard, rape, fort-weed, fire-weed, smart-weed, golden rod; I have omitted wild rice, which yields quite largely of honey. I am also told there is a plant growing along the Wisconsin river, and very profusely, but I have forgotten its name. There is also a plant in the cedar swamps north of us that yields honey of a superior quality. I have noticed that bees generally do better along the streams and in the vicinity of lakes and large bodies of low ground, where the various kinds of plants are not affected by the drouth.

Mr. Sayles then read the following article upon the management of the

HOME MARKET FOR HONEY.

I believe that honey, both extracted and in the comb, will, with proper efforts on the part of the producers, very soon become a staple article; that extracted honey will largely supersede the higher grades of syrups, and comb honey will have its regular place on the shelves of our grocers and fruit dealers, in active competition with the finer jellies and canned fruits. To bring this to pass as speedily as possible, is, in my judgment, the direction in which our principal efforts should be turned. I need not, of course, stop and argue the value of honey as food, but even we have very much yet to learn in regard to the various uses to which it may be put, and also of the wonderful little harvester who gathers it. We must, however, convince people that we have an article entirely wholesome, and really valuable as well as a delicious article of food. Explain to them why extracted honey is cheaper than comb. Let them see us extract and put the honey in casks or jars, and see that we fill them full, and leave no room for adulteration. Let them see for themselves the large quantities we obtain; for few will at first credit the unattested statement that a colony of bees will produce 100 lbs. of honey in a season to say nothing of the quantities some bee-keepers get. We must also discuss the matter in our local papers, and give recipes for its use in cooking, and show how extracted honey compares in price with the higher grades of syrups, and comb honey with the finer jellies and canned fruits, and how great the advantage is in favor of honey, in richness and flavor.

A YEAR'S MANAGEMENT OF AN APIARY.

The following from E. Pike was read:

I have adopted the mode of natural swarming for the past two years, being better satisfied with the results than on the artificial plan. I always keep my colonies strong, with good queens, and should any cast off a swarm before they are very strong, I put them back; otherwise, in a bad season, dwindling would be the result, and no surplus. I clip one wing of all my queens, as soon as fertile, and when a swarm issues I immediately pick her up, from the front of the hive, and place her in a tumbler. I then set the old hive back two or three feet, and place my new hive in its place, giving it two combs of brood from the old colony and fill with frames of comb foundation, when the swarm returns to their old location, I give them the queen, and they rush in. As soon as there are enough to give each hive an equal number of bees, I set the new hive in a new location, and the old in its usual place. Such colonies soon fill a hive, and produce nearly as much surplus.

Colonies that I run for extracted honey, I put none but drone combs in the upper story, and allow as little drone comb as possible in the brood chamber. Queens are not apt to go far from the brood chamber to use drone comb. I extract as they commence to cap over, the honey being then well evaporated, and thus they are kept constantly at work at that which avails most to the bee-keeper.

For comb honey, I use sections 5x6 inches, both double and single. The double can be used as a box, or sections; either is attractive, and sells readily. If the keeper has well preserved combs, the chances are, at least, 5 lbs. of extracted to 1 lb. of comb honey. Combs inserted for comb honey will not go far, in comparison to the number of pounds that can be obtained by extracting, the supply of comb would be a failure. I often have many waste pieces of white comb that are very desirable to use in sections. These I shape with the honey knife, by thinning the lower edges, so that they have the appearance of a newly started comb. Bees are much adverse to building down combs that are cut square, and not thinned; the cells being so long where they commence, they do not build it readily. When cells are lengthened, they incline upward a little, and the keeper should place all combs in like manner. This would be very essential in sealed worker combs in the brood chamber. The young bees, after the brood is capped, always lying flat on their backs, give their heads a slight elevation. I have never seen brood at that stage in any other position, hence the above reason.

The best prevention against loss in wintering is good ventilation. Quilts should never be laid on the top bars, but elevated some. The bees will then cluster on the top bars and have better access to all the combs, and the moisture will escape more readily; the hives remaining dry inside. For this purpose I use a hive with top bars set down 3½ or 4 inches, and tuck my quilts tightly, about even with the upper edge of the hive. The body of the hive, only, I put in winter quarters. I only lost one colony out of 77 last winter, and that colony was queenless; the rest all came out bright and vigorous.

Keeping a sufficient number for the greatest capacity of bees; obtaining the best quality instead of the greatest quantity of honey; giving the keeper the least amount of labor and expense, with better margins at the close of the season's work, seem to be the most desirable points in this business.

Mrs. Fannie Dunham exhibited a specimen of comb foundation, made on a machine of her own invention, the peculiarity of which consists in making the base of the cells very thin, and using more wax in the sides of the cells ; also making the face of the foundation comparatively true and smooth, instead of following the indentations of the base. She exhibited a comb built on it, which, was inserted in her strongest colony in the hot weather of July. The frame was filled from top to bottom ; it did not sag nor bulge. It has more the appearance of natural comb, as the bees begin to build it, having the base of the cells thin, and more wax in the side walls.

Moved and carried that this meeting be adjourned till the first Tuesday and Wednesday after the 20th of May, 1879, to meet at Hartford, Washington County.

A. H. HART, *Pres.*

MRS. FRANCES DUNHAM, *Sec.*

Central Ohio Convention.

This Association met at Columbus, Ohio, Dec. 11, 1878. J. O. B. Renick in the chair, and S. D. Reigel, Sec.

Pickaway Co., has 1,808 colonies of bees, which produced in 1877, 18,627 lbs. of honey.

C. J. Huston offered a resolution which was adopted, to the effect that the Legislature be asked to have inserted in assessors' blanks a column for the collection of statistics as to the number of improved and unimproved hives, and the number of pounds of honey produced by each.

Specimens of extracted honey, sections, hives and other articles were on exhibition.

T. F. Bingham, Abronia, Mich,, exhibited his bee-smoker and uncapping knife ; also specimens of the new comb foundation with and without wire, to prevent sagging. He also addressed the Convention upon the subject of the honey market and its present low prices.

J. O. B. Renick spoke of production, and what might be. It required but little capital, and might pay off the State debt in one year.

S. D. Riegel read an able paper on "The Importance of Bee-keeping." He remarked that there are 2,000,000 colonies of bees in America and 70,000 bee-keepers, with a yield of 35,000,000 lbs. The wax is estimated at 2,000,000 lbs. The sale of extracted honey has been injured by the adulterators.

Mr. Bingham said the same was true of New Orleans molasses and other articles, and Congress had been petitioned to prevent this imposition on the public and injury of honest dealers. He also read a paper against the use of glucose for feeding bees, showing it very dangerous, and holding that pure honey is adulterated with this same article.

Mr. Riegel spoke of the adulteration of honey in the Columbus market, and that the Association should take measures to eradicate it.

Dr. R. G. Warner read from the *Ohio State Journal* an article on the "Constitution of Sugar," written by Prof. H. Snyder, of the Ohio State University.

In the discussion of this paper Mr. Bingham said there was a great difference between the natural and manufactured glucose, and he read a paper prepared by Pro. R. F. Kedzie, of Michigan State University, Lansing, and read before the Michigan Bee Keepers' Association.

Mr. Joseph McBeth, of Columbus, spoke of the relative values of black and Italian bees, preferring the latter. He favored raising buckwheat for bees as well as white clover. A general discussion ensued.

The Association finally adjourned to meet at Lancaster on the second Wednesday in January next.

Michigan State Convention.

Met at Grand Rapids Dec. 4. Hon. A. B. Cheeney in the Chair, T. F. Bingham Secretary. After the routine business, discussion was introduced on

ESTABLISHING AN APIARY.

Mr. Jas. Heddon, of Dowagiac. said much depended upon location and the supply of white clover, basswood, buckwheat and fall flora, which go toward making the honey crop.

Mr. Steele, stated that the northern section of the peninsula were admirably adapted to bees and honey ; far superior to the southern section of the State.

Mr. Van Ness of Newaygo county remarked that a single colony of bees in his possession had produced an average of 10 lbs. of honey per day, from red raspberries. The whole country for 50 miles around was covered with them. The bees worked upon raspberries when there was plenty of white honey in the country.

J. D. Husted, purchased 8 colonies of bees last year ; he divided them in April ; they had little honey and nearly starved. He had 3 acres of red raspberries from which the bees filled the combs in 5 weeks, when there was plenty of white clover. He has now 20 colonies and had 600 lbs. of honey. His bees must have died but for the raspberries.

President Cheeney said he had plenty of berries but his bees did not work upon them.

Mr. Heddon said it was important for any one contemplating the establisment of an apiary to get 6 miles away from any one else engaged in that business, and keep that far away. His bees went from 1½ to 2 miles for food, and spoke of the great danger of overstocking and the destruction of the business from too many persons in one locality engaging in it.

Prof. Cook, spoke of the pine regions of Northern Michigan as being admirable for apiary purposes. He had traveled through that region during the past year and was surprised at the quantity and quality of honey produced, mainly from red and black raspberries. Mr. Roop, who lives near Carson City, had made $2,300 this year upon his honey, and was urging every one to engage in the business. Speaking for himself, Prof. Cook said he preferred a large field for his bees. In the pine regions there is plenty of fall flowers and a great yield of fall honey.

The following resolution was passed unanimously :

Whereas, We have reason to believe that Northern Michigan offers unusual inducements to bee-keepers, not only in the quantity, but also in the quality of honey which it produces ; therefore,

Resolved, That the following gentlemen be appointed a committee to gather facts as to the same and report at the next annual meeting : George E. Steele, of Elk Rapids ; L. C. Lincoln, of Greenville ; Henry Palmer, of Hart.

BUILDING AN APIARY.

Secretary Bingham said the specialist could tell his neighbors that the business was not generally profitable ; that there was danger of losing honey by theft ; that the markets were poor, and that the business end of a bee was something to be dreaded.

Dr. Southard said a majority of bee-keepers engage in the business at their homes while the specialist must start out and seek a location for his apiary. The time is coming when apiarists will try to improve their locations by growing plants that will supply a large amount of food for bees. He advocated artificial swarming, and gave his method of effecting it.

Mr. Heddon preferred natural swarming.

Mr. Hetherington, of East Saginaw, thought the best method for building up an apiary was by purchase. He would keep the bees from swarming as much as possible, as it is cheaper to purchase. By this practice more and better honey is produced.

Mr. Heffner said swarming could be prevented by ample room and ventilation.

Mr. Heddon said he did not know any effectual method to prevent swarming ; he had tried every one he ever heard of.

President Cheeney said last spring he had 120 colonies ; that 60 colonies is as many as can be kept profitable in one place. He decided to increase his bees 40 or 50 colonies and purchased a lot of queens and took the queens out of the strongest colonies as the queens arrived, and put them into new hives. He then took out 5 frames filled with comb and placed them in the hive alternately with comb foundation. He then placed the hive on the old stand and took the old colony to a new place, some distance away. On the next day he introduced the purchased queen, and his plan for an increase of colonies worked well. He had perfectly true combs.

COMB FOUNDATION.

Secretary Bingham read the following :

Comb foundation has been used more or less for 20 years, but until within 2 or 3 years it has been so faulty in its construction or price, that honey producers have not taken kindly to it, even in the brood chamber where no conscientious scruples could be urged against its use. The new kind however, so far as mechanical construction is concerned, seems to be all that could be desired. The level septum foundation, if not perfect at present, strikes the line on which mechanical perfection is possible. On this principle, machines with steel rollers may be made which will produce a septum containing less wax and more perfection in its construction than formerly. Complete honey comb might be perhaps desired, yet with the high price of wax the matter is open to the question of economy. If, complete comb is not at present practicable, the new foundation offers the best substitute. The walls one might suppose which are so high and perfect, would be still better if they were higher. Such, however would not be the case. While the strength and size of the jaws of the honey bee are perfectly adapted to forming and thinning the edges of the combs and cells, they are incapable of manipulating to any considerable extent combs already formed. This principle denies the probability of bees ever thinning the foundation at the base, while it proposes that they will thin and complete cells already started. On the judicious use of this principle rests all the reasonable hope of machine aid in the surplus boxes. Comb foundation has had much to contend with. Unscruplous parties substituted paraffine for pure wax and cheap foundation fell into disrepute. Then it was urged that it sagged so that the queen would not lay readily in it, and when perchance she did, monstrous three-cornered bees emerged from its hideous cells. To avoid this, Capt. Hetherington incorporated wire into its manufacture. The new plan of flat septum allows the incorporation of wire without liability of injury to the rollers, or weakening or breaking the wire. Mr. Betsinger states that copper wire corrodes under the influence of the food fed to the young larva to such an extent that the bees remove the brood from the cells under which the wire passes. Should such be the case the use of tinned wire would at once obviate the difficulty. I should prefer tinned wire whether Mr. B., experience should prove to be the rule or merely an exception.

Mr. Heddon read an essay on the same subject, after which the topic was discussed by Mr. T. G. Newman, Dr. Southard and others.

RACES OF BEES.

The President read a paper on "Kinds and Qualities of Bees," by Frank Benton, of Detroit.

The Convention passed the following resolutions unanimously :

Whereas, We feel the deep importance of the subject so ably presented by our brother member, Mr. Frank Benton, of Detroit, of some plan to secure the testing of the various species or races of exotic bees, and,

Whereas, We feel that in the importation of some of these bees, there are very great possibilities of rapid advancement ; therefore,

Resolved, That Presinent Cheney, Frank Benton and H. M. Roop, be appointed a committee to take the matter into consideration, and if possible, to devise some practicable scheme whereby we may obtain information of the various species of foreign bees, and if desirable, may secure their importation into our State and apiaries ; and

Resolved, That the committee bring the same subject before the National Convention at its next meeting.

UNTESTED DOLLAR QUEENS.

Prof. Cook said : In the revised "Manual of the Apiary" I gave the following advice : "Send to some reliable breeder, and ask for a queen worth at least five dollars. It is the mania now to rear and sell cheap queens. These are reared—must be reared—without care, and will, I fear, prove *very cheap*. It is a question if any more sure way could be devised to injure our colonies, than the dollar queen business, which is now so popular. It is quite probable that much of the superiority of Italian bees is owing to the care and careful selection in breeding. Such careful selection in breeding either black or Italian bees, is what will augment the value of our apiaries.

"The tendancy of the dollar queen business is to disseminate the inferior queens, many of which will appear in every apiary. These should be killed, not sold. Yet many an apiarist will think even the poorest queens worth a dollar. My friend Mrs. Baker bought a dollar "albino" queen last summer, which was not worth a cent. Yet it cost only a dollar, and of course no satisfaction could be secured, or even asked for. I think it behooves apiarists to think of this matter, and see if dollar queens are not very dear. I have thrown away three dollars on them, and have concluded to pay more and buy cheaper in future.

"I believe our breeders should be encouraged to give us the best; to study the art of breeding and never send out an inferior queen. In this way we may hope to keep up the character of our apiaries, and the reputation of Italians. Else we are safer under the old system, 'natural selection' retained the best by the 'survival of the fittest.'"

My friend, Mr. A. I. Root, so well known as an able apiarist, and one to whom our art owes much that is valuable, in a very kind notice of my book criticised the above in the following words: "I feel that friend Cook has made a bad mistake in regard to dollar queens. It is probably from some misconception. All honorable queen breeders, and I hope and believe all who advertise in our list are such, rear their queens from imported stock and rear them in the very best way they know how. The idea that these queens are in any way inferior to to the tested ones, or to the best that can be bought, only that they are untested, is, I can but feel, an unkind insinuation on the large list of those who rear queens. With the ample experience I have had in the matter, I should say that dollar queens might well be ranked with foundation as one of the great blessings to the A B C class of bee-keepers, of the present day. Everybody now tests their own queens, and a great amount of fault-finding and disatisfaction is avoided. People do not long continue to buy that which does not pay; yet the dollar queen business has rapidly increased year after year, and now the traffic amounts to thousands of dollar in a single week."

I have no personal interest in this matter, as I do not now, nor do I expect ever to raise queens for the market. Yet I do feel that the subject is one of great moment to bee-keepers, and to the welfare of our art, and I believe that our friend, as quoted above, has misapprehended my position, and so I ask your kind indulgence, while I state more fully and clearly my views, on what I believe to be a subject of great importance to us all.

Variation a law in nature.

Darwin, in his great work, calls attention to the indisputable truth, that variation is a law inherent in all organisms; every skillful breeder of any of our domestic animals recognizes this law. Go to the most famous herd of short-horns in existence, and will you find perfect uniformity? Avery & Murphy's celebrated Duke is a fine rich red; their Young Duke yearling is a light roan. In every breeding stable or yard the world over this same truth is exemplified. As this law applies to all organisms, vegetable no less than animal, we should not expect to find our bees an exception; nor do we. Why all the talk about a standard of excellence for Italians, except that our breeders know and recognize this principle of variation. Breeders of poultry state in so many words, that even among the best breed of fowls undersirable sports are constantly appearing, and that careful selection alone can maintain superiority in the poultry-yard. Bee-keepers note variation, and think it denotes impurity. Breeders of black bees with no Italians near, have observed great variations in color and habits. In fact, General Adair and others talk of a gray bee as well as a black. Mr. Moon says Italian queens vary from golden yellow to black. Mr. E. Gallup spoke of these dark queens and their less highly-colored workers, and said they were the best. I have had two very dark imported queens, yet they were very excellent—I think them pure, and that Italians are surely a fixed race, but that perfect uniformity of color is not a characteristic.

Careful selection the secret of successful breeding.

Why is it that such names as Collins, Booth, Bates, Blackwell, Felch and Burnham, are household words among the breeders of cattle, sheep and poultry? Only that they had the eyes of an artist, and were quick to discern desirable or objectionable variations even though slight, and as quick to grasp and retain the former or strike down the latter.

Our great breeders, will under no circumstances, breed from an inferior animal. They have an ideal in their mind, and, carefully select in their breeding that they may attain the hoped-for perfection. In their breeding they are constantly rejecting animals as inferior. They have learned to labor, and to wait. Now they might take less pains, and sell cheap; but dollar short-horns, berkshires and merinos, would find no market, nor any editor to encourage their sale.

But, as we have seen, the same law holds true in the breeding of bees, and the fact that we have less control from the very nature of our bees, renders it all the more essential, that the greatest care be taken in our selection. We can only be perfectly sure of our females, and thus it is imperative that our queens should be the very best, even though nine-tenths of our queens are rejected, and even though costly imported queens must go to the wall.

Can bees be improved?

Dzierzon says he "greatly improved his Italians." Gravenhorst says of Dzierzon, that by selection he greatly improved his Italians and has secured bees that combine all the desirable qualities. Kleine says: "The Italian race properly managed does not degenerate, but even admits of improvement." Mr. Langstroth says: "We may greatly improve our Italian bees by supplant-ing all inferior queens by superior ones raised from the choicest parents." Mr. Benedict says: "With Geo. Thompson I believe that our bees can be greatly improved."

How shall we improve?

Mr. Langstroth says by breeding only from the finest. Dzierzon says by invariably using brood from the handsomest and most fertile, for breeding. Mr. Moon emphasizes the fact of variation among the best Italians, and urges with great force the selection of the best only, for purposes of breeding. Mr. Dadant, whose articles show him to be a master in this field, pleads eloquently for caution in this direction. Mr. Alley, a man who rears and favors cheap queens, spoke wise and meaning words in American Bee Journal, Vol. 6. p 58, as follows: "I pay the highest price for my breeding queens," (Why?) "and now have queens of my own rearing that I would not sell for $50." Mr. Root often tells us of queens of surpassing excellence in his apiary. Would he have us believe that exclusive breeding from such queens, at a compensation which would make it possible, would be no better than breeding from all his queens indiscriminately, even though all are imported?

What shall the ideal be?

I believe color is lauded far too highly. A few years since color was a mark of low grade in ranking short-horns. In breeding for farm and early maturity that had been neglected as of inferior consideration, and one could not secure animals that would breed true to color, without sacrificing more weighty points. Now, some of the best strains are being selected in reference to color, and soon, it will be possible to procure the rich red short-horns, that shall also be first in every other consideration. I believe a like course is desirable in breeding bees. With Mr. Dadant, I should place color after prolificness of queen, and activity, endurance, and temper of workers. First. Aim to have your queens reproduce themselves in fecundity, and in ability to generate the most vigorous and energetic workers, then work for amiability and beauty. I believe, nay, I am sure, that our breeders, if encouraged, can produce bees that will eclipse even our best Italians of to-day. To do this, Mr. Alley must breed to sell only from his $50. queens. Mr. Root from only those which excel in his apiary, and so of all the others.

Now I believe that among queen-breeders, as among breeders of other stock, we shall never reach, even a mediocre of success, until the reputation of our breeders for only keeping and selling the best, becomes established. Our breeders must not only be encouraged to make the best selections, and breed only from the best, but also to rear queens only in full colonies, to insure against the rearing of queens from worker larvæ which are nearly mature, to rear queens only in warm weather, and when bees are active, and stores abundant. Now, I think it is no "mean insinuation" to suggest that all these will not be secured till the demand, the price and the general opinion among bee-keepers, and especially the influence of our editors, all conspire to bring it about. It is far from sufficient that imported stock only be used. I would have our breeders use the best, no matter whether imported or home-bred, and supplement this with every other caution. I believe the superiority of Italians is not owing to careful breeding, but to the law of "natural selection"—shut up in a limited area, and walled in by mountains, there was a struggle for life, and only the fittest could survive, so all but the most vigorous would starve, hence there was developed an active race, with longer tongues. Without doubt the variations still continue, some towards a still higher excellence, others reverting to the inferior condition of the past. We may select the former and develop a still higher race, or we may breed with no care, and lose the excellence we already have. The whole dollar queen business tends in this very direction. Even our most honorable breeders will not, can not, take the requisite care, and sell for one dollar. They will not wait, and watch, and study, to find the most excellent queens; will not take pains to secure eggs exclusively from such queens; will not start and rear all queens in full colonies; will not cease to breed, when cold or dearth of nectar makes the most successful breeding impossible; cannot, nay, do not, even profess to watch and test the young stock, to see whether it is valuable or not. The queens from congenital hurt, may be poor or worthless, or the same may result from mismating. Now in saying this, I disclaim any intention of casting "mean insinuations." It is not the fault of the breeder, but of the system. In other occupations, it takes desire for reputation, remunerative prices, and pride to stand first, to secure the best work. I believe we bee-keepers are no exception. Yet none of these incentives can possibly influence the breeder of dollar queens. Men with the requisite skill will generally abandon the business, Our system of breeding will degenerate, and our business lose one of its brightest opportunities for progress. Mr. Langstroth tells me that what I say of dollar queens is entirely correct. The unanimous vote of the National Convention says the same. Mr. Nellis may be correct in saying that it will be hard to stay the flood of dollar queens, but that is no reason why we should not all do our part to accomplish it.

In my own home-breeding, I find it wise policy to distroy many queens, and to take the greatest care that everything should be the most favorable in rearing young queens. I would that we might all do our part to stimulate those who breed for the market to do the same. We can do this by saying to the breeder, in the words of E. L. Briggs (see American Bee Journal, Vol. 6, p 86): "Fix your own price, but send me one of the best queens you have got." Analogy, reason, my own experience, together with that of many with whom I have talked, all proclaim this to be the wise policy.

Were I to enter the list as a breeder for the market, I should select with the most severe scrutiny, and study to spare no pains in securing drones from my best colonies, follow with no lack of energy, the wisest counsels in securing and caring for the embryonic queens, test with the severest measure the qualities of my young queens, destroy those that failed to fill the measure, and for the balance ask a good price, for I should have earned it, and I am sure that very soon I should have no lack of purchasers.

Mr. T. G. Newman, in an animated speech, condemned the dollar queen traffic as detrimental to the best interests of apiarists generally, and damaging to the race of Italian bees. Many puny half-developed queens that are sent out for a dollar, were dear if sold 3 for 25 cents. A prominent breeder having recently made a similar statement in public.

A resolution of thanks to Prof. Cook for his essay was adopted, after which a resolution discouraging the sale of dollar queens, as detrimental to the interests of bee-keepers, was adopted by a unanimous vote.

Mr. Newman was elected an honorary member of the Association.

OFFICRES ELECTED.

On Thursday morning the first business was the election of officers, which resulted as follows:

President—Hon. A. B. Cheney, of Sparta Center.

Vice Presidents—Geo. E. Steele, Elk Rapids; Dr. W. B. Southard, Kalamazoo; James Heddon, Dowagiac.

Secretary—T. F. Bingham, Abronia.

Treasurer—O. J. Hetherington, East Saginaw.

The Society decided to hold but "one annual" meeting per year, and Jackson was selected as the place for the next meeting.

The address of the National Association "To Consumers of Honey" was commended to the Members of the Association, and as Mr. Newman, the President of the National Association, was present, and had a number of copies of it, to give to apiarists for insertion in their local papers, the Association requested all to get a copy and see the editors of their local papers and get them to insert it.

HONEY AS FOOD.

Mr. T. G. Newman was called upon who delivered an impassioned and eloquent panegryic on honey, which was very well received.

Prof. Cook then read a paper on Grape Sugar, written by Prof. Kedzie, of the State Agricultural College.

The following resolution was passed unaimously:

Resolved, That we thoroughly disapprove of the use of glucose for feeding bees, and urge that all the bee-keepers of our State refrain from its use as bee food.

The President then read a paper from Mr. Fish Bangs of North Lansing on

HONEY PLANTS,

n which he took strong grounds in favor of Chinese mustard, or black mustard, as a honey plant. He gave his own experience. He says it makes fine honey, the best, according to Prof. Kedzie, ever made. He sows seed, or drills it in, cultivates it to keep down the weeds early, and later the plant kill out the weeds. He regards it as a very fine weed exterminator.

Prof. Cook desires apiarists to have beds of flowers near their hives, to keep bees busy in the "dry season" along in July and August. He says it will stimulate the bees and increase the breeding. He recommended black mustard, catnip, (the latter if the honey it makes is good) cleome or Rocky Mountain Bee Plant and Mignonette.

Dr. Southard spoke very highly of catnip as a honey plant. He also spoke of alsike clover, but does not prefer it to white clover. He also spoke of melilot, and calls it one of the most valuable honey plants. He would cut it back in June, from the 15th to the 30th, to get the flowers from July 10th till the time of frosts. He will sow 3 or 4 acres of it the coming year.

Mr. Heddon recommended sowing melilot clover in waste places, along the roadsides.

The President also read a paper on bee-culture in Southern California, written by Mr. M. S. Baker, of San Monico.

Brief discussion followed on the merits of different parts of our country for raising honey, in which Mr. Heddon, Mr. Bingham and others took part.

MARKETING HONEY.

The following from Mr. C. F. Muth, of Cincinnatti was then read:

Much has been said about the production and marketing of honey and much more remains to be learned. Nothing contributes more to the success of any business than a fair exchange of the ideas of practical men. Producer and dealer are as near relatives as capital and labor, and a feeling of good-fellow-ship should exist between them. Nothing is more ridiculous than for the producer to think that all is profit with the dealer; or for the dealer to consider a good crop of honey to be a clear gain to the producer. Both have their troubles and vexations; both meet with losses, and the dealer's is not the least of the two; both have plenty of exercise for brain and muscle, and a depression in the market effects both alike.

At present, honey is still considered a luxury and the price is very low, too low to satisfy either producer or dealer. Hard times, as our present state of affairs is generally termed, is no doubt, the principal scape-goat. But there will be a reaction and the price of honey will be regulated, like the price of other produce, by the rules of supply and demand. It is a satisfaction to notice that honey is appreciated more every year. But, if any particular reason is assigned for the fact that honey is not in more general demand, that reason, perhaps, is adulteration. It is a fact that the granulation of honey is often an impediment to its sale but this is attributable to the ignorance of the consumer and not to the quality of the honey, the former should be posted; but we should never tamper with the purity of the honey. Who would, knowingly buy adulterated honey, even if the article added, as some assert, was purer and more valuable than honey?

Prof. Cook, Messrs. Heddon, French, Felker, Baker, the president and others, discussed the subject.

Mr. Steele, of Elk Rapids, said there was very little good honey to be seen in the grocieries of Grand Rapids. Where he found one nice sample of honey he saw five that was simply detestable. He said the bee-keepers do not put up the honey in good marketable shape, and the dealer never properly advertises or takes care of it. But few dealers can show honey put up in good shape, while in any grocery, neat packages of tobacco, handsomely painted and labeled, brooms and other goods can be found. He urged producers to put up nice packages and advertise it so that consumers will seek for it.

WINTERING BEES.

Mr. Heddon said he had tried all systems with varying success, and he had arrived at the conclusion that packing is as good as any method. If he had a suitable cellar would winter his bees in it. It is difficult to keep the temperature of cellars sufficiently low for bees.

Dr. Southard said he had packed his bees with very good success. He packed them in straw and chaff and during the past two winters he had not lost two per cent. of his bees. He did not approve of wintering bees in cellars.

Mr. Heffner advocated outside wintering, with plenty of ventilation.

Prof. Cook said if all conditions are favorable, bees can be safely wintered in cellars. He did not deem ventilation of much importance, if the bees are in proper condition, yet the chances are that without ventilation the bees will die. During extremely cold weather the cellar is the proper place for bees, the temperature of which should not be more than 45° above zero.

J. J. Robinson said he had lost 24 colonies of bees by packing them in bee houses.

President Cheney said he wintered bees in his cellar successfully. Last winter he had 60 colonies and suffered no loss.

RESOLUTIONS ADOPTED.

Prof. Cook chairman of the committe on resolution presented the following report:

Resolved, That we tender our thanks to the Board of Supervisors of Kent county, Mich., for their kindness in granting the use of this pleasant hall for the present meeting of our Association.

Resolved, That our thanks are due to the proprietors of the Rathburn and Eagle Hotels, for courtesies extended.

Resolved, That we are grateful to Prof. R. F. Kedzie, Mr. M. L. Baker, Mr. Frank Benton and others, for the able papers which they so kindly prepared for our instruction and entertainment.

Resolved, That we gratefully recognize the able services of our President, Hon. A. B. Cheney, and our Secretary, Mr. T. F. Bingham, as exemplified in the thorough preparation for, and consequently unparalleled success of this meeting.

Resolved, That we practically acknowledge our indebtedness to the wide-awake, earnest, editor of the old reliable AMERICAN BEE JOURNAL, Mr. Thomas G. Newman, not only for his helpful attendance upon this and former occasions, but also for his able work, spiced everywhere with good judgment, which comes monthly to our firesides to aid and encourage us in our work.

Whereas, We learn with sincere pleasure of the recovery of the Rev. L. L. Langstroth, who, as the inventor of the movable frame hive, as the discoverer of many new truths in the science and practice of our art, and as the author of one of the best books ever written on the subject of bee-keeping, stands among the very first of the world's apiarists; and

Whereas, It gives us great satisfaction to learn of his intention to publish, at no distant day, his autobiography, as we shall be greatly interested to learn of the successive steps which led to his great invention, and the methods pursued in his researches whereby so many new and valuable truths were discovered to the world; therefore,

Resolved, That we earnestly hope he will be able to personally supervise the revision of his valuable book, that the clear, pure and scholarly style may suffer no loss, and that the same frank candor, honesty and great love of truth may still adorn its pages.

Resolved, That copies of these preambles and resolutions be sent to Mr. Langstroth and the several bee publications.

The committee on exhibits report that they find on exhibition the following bee-keepers' supplies:

Hives—T. F. Bingham, shallow frame; Lewis & Parks, Langstroth; R. S. Becktell, Langstroth; J. Heffner, winter, chaff-packed: Novice chaff, by C. P. Friemd; and J. N. Becker's.

Frames—Gallup and Langstroth, new style, without nails, by Prof. Cook; Quinby improved, O. J. Hetherington.

Surplus Boxes and Sections—Continuous sections, Lewis & Parks; spruce sections, James Heddon.

Shipping Case—Thys Stadt, springs on bottom; C. P. Friemd, for 4x4 sections.

Smokers—Bingham, three sizes; Novice; King.

Extractor—Everett, with new gearing.

Feeders—King's; Shuck's.

Surplus Honey Register—James Heddon.

Comb Foundation—O. J. Hetherington, flat-bottom cells with fine wire; Martin Metcalf, made on factory cloth; Mrs. F. A. Dunham, with elevated side-walls.

Honey Knives—Bingham & Hetherington, with and without back; Everett, three kinds.

Glucose—Samples by Prof. Cook and the Davenport Glucose Co.

Honey—C. P. Friemd, 2 doz. 4x4 sections; M. Wright, both extracted and comb; Erastus Weeks, extracted.

Books—Manual of the Apiary, A. J. Cook; King's New Bee-Keepers' Text-Book.

While the committee have found some desirable features about many of the exhibits, they would especially mention as worthy the adoption of bee-keepers: The Bingham smoker; Shuck's bee-feeder; Heddon's surplus honey register; the Bingham & Hetherington honey knife; the Everett extractor, with its new gearing, and Prof. Cook's new Manual of the Apiary.

[The above report of the Michigan State Convention is made up from the report published in the Grand Rapids dailies. The Secretary having left for the East on business soon after the Convention, wrote us that he would be unable to get his Report ready till next month. Considerable anxiety being expressed for the Report in this number of the JOURNAL, is our reason for not waiting for the Secretary's minutes. The rest of the papers read there will appear in our next issue.—ED.]

The proceedings of the Convention at Carson City, Mich., came to hand too late for insertion in this number of the JOURNAL. It was a very enthusiastic meeting, and the proceedings will be read with interest. They will, however, be just as good, for the February number.

The Northern Illinois and Southern Wisconsin Convention, held at Shirland, was also an interesting one, and its proceedings will be presented to our readers in the February number.

Business Matters.

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We do not send goods by C. O. D., unless sufficient money is sent with the order to pay express charges both ways, in case not taken from express office.

In consequence of the dearth of small currency in the country, we will receive either **1, 2 or 3 cent stamps,** for anything desired from this office.

Strangers wishing to visit our office and Museum of Implements for the Apiary, should take the Madison street-cars (going west). They pass our door.

Additions can be made to clubs at any time at the same rate. Specimen copies, Posters, and Illustrated Price List sent free upon application, for canvassing.

Remit by post-office money-order, registered letter or bank-draft, payable to Thomas G. Newman & Son, so that if the remittance be lost it can be recovered.

We will send a tested Italian Queen to any one sending us **FIVE** subscribers to the AMERICAN BEE JOURNAL with **$7.50.** The premium Queens will in every case be tested, but not sent till after July 1st.

Write name and post-office address plainly. If there is no express office at your post-office address, be sure to give your nearest express office when ordering anything by express. Give plain directions how goods are to be sent.

Seeds or samples of merchandise can be mailed for one cent per ounce, Printed matter one cent for every two ounces. These must be tied up; if pasted, they are subject to letter postage. *Don't send small packages by express, that can just as well be sent by mail.*

For the convenience of bee-keepers, we have made arragements to supply, at the lowest market prices, Imported or tested Italian Queens, Full Colonies, Hives, Extractors and anything required about the Apiary. Our Illustrated Catalogue and Price List will be sent free, on application.

We have gotten up a "Constitution and By-Laws," suitable for local Associations, which we can supply, with the name and location of any society printed, at $2 per hundred copies, postpaid. If less than 100 are ordered, they will have a blank left for writing in the name of the Association, etc. Sample copy will be sent for a three-cent postage stamp.

Our answer to all who ask credit is this: We sell on **small** margins, and cannot afford to take the risks of doing a credit business. If we did such a business, we should be obliged to add at least 10 to 20 per cent. more to our prices, to make up for those who would never pay, and to pay the expenses of keeping book-accounts with our customers—this we know our **Cash** customers would not think to their advantage.—This rule we must make general in order not to do injustice to any one. The cash system gives all the advantage to cash customers, while the credit system works to their injury. In justice to all we must therefore require **Cash with the order.**

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☞ Being so much crowded this month, we shall defer publishing the rest of the Statistical Table till our next issue.

☞ A club for the Bee Journal may be sent all to one post office or to as many post offices as there are names in the club.

☞ Our new Illustrated Catalogue of "Implements for the Apiary" has been delayed, but will be issued in a few days, and will be sent to any address, on application.

☞ We have a long article on Glucose which being received late in the month we were unable to find room for it. Will appear in our next issue.

☞ Those wishing a Premium Queen for getting up Clubs will now please send *five* subscriptions and $7.50, and we will send them a choice queen in July.

☞ R. Wilkin, of California, has sent honey to Europe via Cape Horn, and passed through this city on his way to Europe to look after it, about a month ago.

☞ Should any forget our address when on a visit to Chicago, they can easily procure it by consulting the City Directory to be found in almost every hotel and store.

☞ The Convention Reports in this issue take up much of the space, but they are very interesting. Many articles written for this issue of the Journal are thereby crowded out. They will appear in our next.

☞ Some complain that honey is selling low. Still it is not as low in proportion as pork, which only brings now 2½ cents per pound, when a year ago it brought 6 cents. Everything has depreciated in price, honey with the rest.

☞ Every man must support himself and his family by the business in which he is engaged. Therefore when any one offers his goods at prices that will not allow a margin sufficient to pay for his time, &c., it is evident that something is wrong. Purchasers will be safe in making it a rule to always deal with reliable parties, and pay a fair price for what they want. "Something for nothing" generally proves a disappointment to the one who expects it, and usually brings trouble and perplexity. One who offers $5.00 worth of goods for 25 cents, or anything like it, should be put down as a fraud, at once!

☞ Mr. Henry Alley wishes to state to correspondents that he has been prevented by sickness in his family, from answering the many letters lately received. He will give attention to such at the earliest moment possible.

☞ Mr. H. Scovell has sent us another smoker as he has made it—but, alas, it is not only *no improvement* over the last one, but it is far *inferior* to it. He says there are 4 more kinds to follow. His persistency must be admired, even if the tools are useless, when produced.

Vick's Floral Guide.—Of the many Guide and Seed and Plant Catalogues sent out by our Seedsmen and Nurserymen, and that are doing so much to inform the people and beautify and enrich our country, none are so beautiful, none so instructive as "Vick's Floral Guide." Its paper is the choicest, its illustrations handsome, and given by the hundred, while its Colored Plate is a gem. This work, although costing but 5 cents, is handsome enough for a Gift Book, or a place on the parlor table. Published by James Vick, Rochester, New York.

☞ A correspondent wishes to know who invented the "Excelsior" Extractor, and asks if the Bee Journal is interested in it. We answer, *No!* A bee-keeper of this city, Mr. Coffinberry, fathers that Extractor, but not wishing to deal in "supplies," did not deem it *necessary* to attach his name to it; but as this question now comes up, has done so in this issue of the Bee Journal. Everything upon the market is kept for sale at this office, including all the Extractors made, merely for the accommodation of bee-keepers in general. We have *no interest* in anything that we sell, as expressly stated in our Catalogue for last year, and when we express an opinion upon any tool offered for sale to bee-keepers, it is, and ever will remain, in every sense of the word, an *unbiased one!* For this reason, we have refused an interest in scores of inventions, offered to us within the past few years. See pages 100, 135 and 172 of the Journal for last year.

Printed Envelopes.—We have gotten up some neatly printed envelopes containing the card of the American Bee Journal. On these we will print a card of honey producers, and furnish them by mail postpaid for 50 cents per 100; $1.00 for 250; $1.75 for 500; or $3.00 for 1,000. Samples furnished free upon application.

☞ On page 408 of Dec. No. Mr. A. Stiles' address was wrongly given. It should have been Genoa, DeKalb Co. Illinois.

☞ The *Industrial Motor* of Des Moines, Iowa, gives an illustrated article on Mr. Shuck's hive and bee-feeder and recommends both very highly.

Mr. Heddon has gotten up a surplus Honey Register, which indicates the state of the boxes on a hive—whether full, nearly, so, &c. It is neat and very useful.

THE AMERICAN ECONOMIST is the title of a new monthly published at Cedar Rapids, Iowa, by Henry A. Cook at $1.50 a year. It contains many interesting articles suitable for the farm and fireside, as well as able articles on domestic and political economy. It is well-edited and is altogether a very interesting magazine, and well worthy of public patronage.

☞ On all checks on local banks we have to pay a discount of 25 cents—therefore send us in place of such, drafts on New York or Chicago, or bank bills in a registered letter. Such are always at our risk.

☞ We have received some specimens of the new Comb Foundation, with elevated side-walls, as made by Mrs. Dunham. The base of the cells being very thin and the side-walls heavy, supplies a plenty of wax to complete the full comb.

☞ Those having petitions to Congress against adulteration, will please send them to their own Representative in Congress before January 7th. This, Mr. Dadant requests us to state, just as this JOURNAL is going to press.

☞ Just as we go to press we learn by a letter from New York, that it is claimed by Messrs. Thurber & Co., that if that cargo of honey sent to England by them is adulterated, the bees had done it. This confirms our view of the case as stated on page 4. The whole trouble is caused by feeding to the bees that abominable trash—glucose!

Local Convention Directory.

1879. *Time and Place of Meeting.*

Feb. 14.—South-Western Ohio, at Lebanon, O.
April 1,—Central Illinois, at Hillsboro, Ill.
May 1.—Southern Kentucky.
6.—Albany County, N. Y., at Clarksville, N. Y.
6.—Central Kentucky, at Lexington, Ky.
21.—North Missouri, at McCredy, Callaway Co.
28.—North-Eastern Wisconsin, at Hartford, Wis.
Oct. 21.—National Convention, at Chicago, Ill.

☞ In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

Honey Markets.

CHICAGO.

HONEY.—White clover, put up in single-comb boxes, in fair demand. Prices paid for such, 11@13c. When more than 1 comb in a box, 10@11c. Dark, in the comb, slow sale at 8@10c. Extracted Honey, white, 7@8c.; dark, 6@7c.

BEESWAX.—Prime choice yellow, 23@25c; darker grades, 16@20c,

CINCINNATI.

COMB HONEY—In small boxes, 11@13c. Extracted, 1 ℔. jars, in shipping order, per doz., $2.50; per gross, $28.00. 2 ℔. jars, per doz,, $4.50; per gross, $50.00.

C. F. MUTH.

CALIFORNIA.

HONEY.—Our low figures for honey are opening up new markets, and in addition to European markets, we are selling extracted honey and wax for the Chinese and Australian markets. Receipts are small but market steady. San Diego county is estimated to produce one million pounds this year. Quotations are as follows: Comb, white, 9@11c; comb, dark to medium, 7@8c; extracted, 4¾@6c.

BEESWAX.—25@27c.

STEARNS & SMITH, 423 Front St., San Francisco, Cal.

NEW YORK.

QUOTATIONS.—Best fancy white comb honey, new, 12@15c; extracted, new, 7@8c; buckwheat comb honey, 10@12c; beeswax, prime, 27½c.

H. K. & F. B. THURBER & CO.

☞ The North-Western Ohio Bee-Keepers' Association, meets at Wauseon, Fulton Co., O., Thursday, Jan. 2, 1879, at 10 o'clock. A cordial invitation is extended to all Bee-Keepers to meet and join with us in discussing the various subjects connected with the interests of our chosen pursuit.

DANIEL KEPLER, *Secretary.*

Napoleon, O., Dec. 20, 1878.

CLUBBING LIST.

We supply the AMERICAN BEE JOURNAL and any of the following periodicals at the prices quoted in the last column of figures. The first column gives the regular price of both.

Gleanings in Bee Culture	$2 50	$2 25
Bee-Keepers' Magazine	3 00	2 50
The three Bee papers of U. S	4 00	3 25
British Bee Journal	4 00	3 50
All four—British and American	6 50	5 00
American Poultry Journal	2 75	2 50
American Agriculturist	3 00	2 50
Ohio Farmer	3 50	2 85
Moore's Rural New Yorker	4 15	3 25
National Live Stock Journal	3 65	3 15
Prairie Farmer	3 50	3 15
Scientific American	4 90	4 35
Western Rural	3 50	3 15
Voice of Masonry	4 50	3 75

SECTIONS!—SECTIONS!—Before ordering sections, send 3c. stamp for sample of our snow-white poplar-wood section boxes, so much admired at the National Convention. Any size made to order. Price greatly reduced. Circulars free. A. E. MANUM, Bristol, Addison Co., Vermont. 1t

BEFORE PURCHASING

Supplies for your Apiary, send a postal card with your name (and if you will do us the kindness, those of bee-keeping neighbors) for our illustrated circular of Apiarist's Supplies, of every description; sample Sectional Box, and Comb Foundation made on the

Dunham Foundation

machine, which is the latest improvement in that line. We wish to place these samples before

EVERY READER

of this JOURNAL, and hence offer them **FREE.** Just send your name at once. Special attention given to rearing Italian Queens and Bees.

☞ We have secured the general agency of the above machine.

The highest price paid for Beeswax.

1-tf J. C. & H. P. SAYLES, Hartford, Wis.

AT REDUCED RATES!

1879.—Early Italian Queens.—1879.

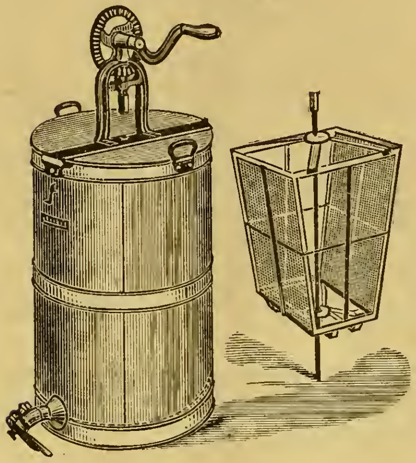
Imported and home-bred Queens, Nucleus Colonies, Full Colonies. For quality and purity, my stock of Italians cannot be excelled by any in America.

If you want the best Movable-Comb Bee-Hives, suited to the Southern climate, Honey Extractors, Bee-Veils, Smokers, Feeders, Gloves, or bee-fixtures of any kind, send for my new Circular. Address,

1-6 Dr. J. P. H. BROWN, Augusta, Ga.

Muth's Honey Extractor,

PRICE, $12.50.



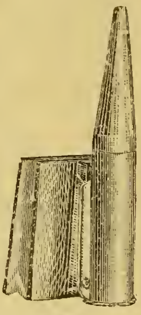
The above cut gives a true idea of "Muth's all-metal Honey Extractor." It is a simple, durable and effective machine. The slanting sides of the revolving basket accommodating, with ease, the smallest frames as well as the Langstroth, American or Quinby, or even a piece of comb without a frame. Everyone knows the advantage afforded by a receptacle for honey in the bottom of the Extractor. A good light cover to keep out dust and flies, is equally advantageous. I shall be prepared to fill all orders for extractors at short notice. Parties ordering, should mention the size of the largest frames they wish to extract from, as it will accommodate all sizes.

CHAS. F. MUTH,
976 Central Ave., Cincinnati, O.

BINGHAM'S

Bellows Smoker!

(Patented January, 1878.)



Nothing used in an apiary so valuable, so cheap, so handy and essential to success.

Burns any sound, dry wood, and will last ten years.

	by exp.	mail.
Extra Large size,	$1.75	$2.00
The Standard "	1.50	1.60
Small - "	**90**	**1.00**

Manufactured only by the inventor
T. F. BINGHAM,
Allegan Co., Abronia, Mich.

J. E. MOORE'S

Perfection Honey Box.

(*Patented May* 7, 1878.)

Made to fit any sized Sections. Circulars mailed on application.

BYRON APIARY,
8-tf J. E. MOORE, Supt., Byron, Gen. Co., N. Y.

ITALIAN NUCLEUS SWARMS

For Sale--Price only $2.00.

AN EASY WAY TO INTRODUCE QUEENS.

Send for strong one-frame Nuclei, with Queen reared from an Imported mother. Satisfaction guaranteed or money refunded.

HIRAM ROOP,
2tf Carson City, Montcalm Co., Mich.

GREGORY'S
SEED
CATALOGUE

My annual Catalogue of Vegetable and Flower Seed for 1879, rich in engravings, from original photographs, will be sent free to all who apply. Customers of last season need not write for it. I offer one of the largest collections of vegetable seed ever sent out by any seed house in America, a large portion of which were grown on my six seed farms. Printed directions for cultivation on each package. All seed warranted to be both fresh and true to name; so far, that should it prove otherwise, I will refill the order gratis. The original introducer of the Hubbard Squash, Phinney's Melon, Marblehead Cabbages, Mexican Corn, and scores of other vegetables. I invite the patronage of all who are anxious to have their seed directly from the grower, fresh, true and of the very best strain. **New vegetables a specialty.** JAMES J. H. GREGORY,
12—5t Marblehead, Mass.

Foundation Machines.

12 inches wide....	$40 00
9 inches wide....	30 00
6 inches wide....	20 00

Every machine warranted. On receipt of 10 cents, I will send a sample of the foundation made by the machine.

12-tf JOHN BOURGMEYER, Fond du Lac, Wis.

1879.--H. ALLEY'S--1879.

Circular and Price-List.

Our Circular, containing information valuable to any bee-keeper, will be ready in December, and sent free to all applicants. It will tell you about Italian and Cyprian bees, one-dollar queens, the Massachusetts bee-hive, section boxes, comb foundation, bellows smokers, how to introduce queens, and in fact will tell you something about almost everything used about the apiary.

I shall use white poplar wood for our section boxes in future. This wood makes the neatest cap in use. Send 3c. stamp for sample. H. ALLEY,
12-tf Wenham, Essex Co., Mass.

SPERRY & CHANDLER'S

NORTH STAR HIVE.

There are now over 1,000 of these Hives in use in different parts of the United States, and wherever tried they are pronounced the best Hives before the public for all general and special purposes. We are now prepared to promptly fill all orders for the North Star, or Improved Langstroth, with our patent Manipulating Side. Samples of surplus honey taken from the North Star, as also our hives in use, may be seen at the American Bee Journal office. Send for illustrated circular—correspondence solicited.

Address SPERRY & CHANDLER,
974 W. Madison Street,
Or AMERICAN BEE JOURNAL, Chicago, Ill. 8-tf

The Maryland Farmer,

The oldest continuously published monthly south of Mason and Dixon's line; devoted to Agriculture; Horticulture and Household Economy.

$1.00 *a Year in Advance.—Illustrated.*

EZRA WHITMAN, Editor and Publisher,
12 181 W. Pratt St., Baltimore, Md.

IF YOU WANT

Supplies for the Apiary, send for our price-list before making your purchases for 1879. If you want

Comb Foundation of Best Quality,

and for **less money** than heretofore, send for our price-list and learn how 'tis done. We sell **GLASS** for honey-boxes,

Tin Separators, Bee-Smokers, Honey Extractors, Wax Extractors, Honey Knives, Prize Boxes, Sections, Bee Hives, Comb Foundation,

and many other things, all at **astonishingly low prices.**

Italian Queens, Nucleus Colonies and Full Colonies of Italian Bees,

of the CHOICEST STOCK in the country, will be furnished in any quantity, at the lowest living prices.

Our CIRCULAR contains much valuable information, and tells you the **best methods** of introducing queens, artificial swarming, how to secure the

MOST SURPLUS HONEY,

and how to obtain the HIGHEST PRICE for the same. Our arrangements are such that we shall be

HEADQUARTERS

for apiarian supplies during 1879. If you have any doubts on this point, just send us your name on a postal card, and our circular will be forthcoming, showing you how to SAVE MONEY in buying supplies.

Our Motto: The Best Goods at the Lowest Prices.

Address, **HERBERT A. BURCH,**
1-tf South Haven, Mich.

Neat, New, Newsy.

THE AMERICAN STOCKMAN.

Breeders, Farmers, Drovers.

The newest, freshest and best Live-Stock paper in the world, is

The American Stockman.

Especially devoted to the live-stock interests of America. The DAILY gives the fullest, latest and most accurate and trustworthy reports of the live stock markets of Chicago, and the other great markets. Edited by those who have had years of experience in this and other markets. Gives all the important matter concerning the trade. Has full and fresh information concerning the export trade in live-stock. Daily, $5 per year; Semi-weekly, $3, and Weekly, eight pages, $2 per year. Sample copy free.

Address, AMERICAN STOCKMAN CO.,
175 Monroe St., Chicago, Ill.

In the Market again with 100 Colonies of

ITALIAN BEES,

with young, fertilized Queens, less than 60 days old, at $5.00 per Colony. We shall continue to rear Queens through the season as usual.

Tested Queens, per dozen	$25 00
Untested Queens, "	10 00

Safe arrival guaranteed. Address,

D. STAPLES & SON, Columbia Apiary,
1-6 *Columbia, Tenn.*

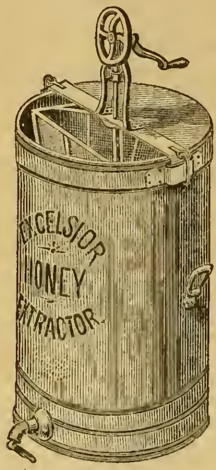
COFFINBERRY'S

EXCELSIOR

ALL METAL

HONEY EXTRACTOR,

PRICE, $12.00.



This Extractor possesses all the advantages of neatness, durability and ease of operation, as well as that of thoroughly and quickly emptying the combs of honey!

This Extactor takes any size of frame smaller than 12x20. Larger sizes will be made to order if required. For extracting four frames at one time, add $3.00.

It is made entirely of metal, and is the best Honey Extractor in the market. It is light, but has attachments for fastening down to a platform, rendering it steady and permanent in position and exceedingly easy of operation. It can be instantly taken to pieces for cleaning, having no screws to take out, nor heavy pieces to lift.

Some of its advantages are as follows: The lower end of the comb basket shaft does *not* revolve in the honey below, even when 60 or 70 lbs. may be there!

It has a strainer elevated some three inches above the bottom of the extractor, and entirely covering the canal leading to the faucet or honey-gate; therefore, when drawn off, the honey is clear and free from refuse matter. This "strainer" can be instantly removed, cleaned and replaced

The Comb Basket having vertical sides, insures the extracting power alike for top and bottom of frames.

An over-motion and strong gearing is essential to both *ease* of operation and *effective* work. By it the motion can be controlled, so as NOT to throw out the brood, when extracting.

The tin covers close the machine up tightly, and thus prevent the bees from annoying the operator, as well as to keep it free from dust and dirt when not in use.

The handles are strong and attached near the centre, for ease in carrying.

It is provided with a small comb-holder for extracting pieces of comb or partly-filled sections.

The honey receptacle has capacity for 60 or 70 lbs. of honey, where it may be allowed to ripen before drawing off, if desired.

THE EXCELSIOR HONEY EXTRACTOR combines all the advantages of other Extractors, and is the *cheapest* thoroughly practical machine ever yet made.

For sale by

THOS. G. NEWMAN & SON,
972 & 974 West Madison-st., CHICAGO.

HONEY JARS.

One pound (square Honey Jars, ℔ gross	$5.00
Two " " " " "	7.00
One " " " "flint glass"	7.00
Two " " " " " "	9.00
Corks for 1 and 2 lb. jars per gross	.75
Tin Foil Caps " " " " "	1.00
Labels for " " " " "	.75
1.000 Labels, address printed to order......	5.00
One-qt. Fruit Jars (Mason's Pat.) ℔ gross	12.50
" " " Royal, "	12.00
" " " Solid rim, "	7.00
½lb Tumblers, flint, tin top......... "	5.50
Uncapping Knives, as good as any, each..	.50
" " " per doz.	4.50
Muth's all-metal Honey Extractor........	12.50
Wax Extractor..............................	4.00

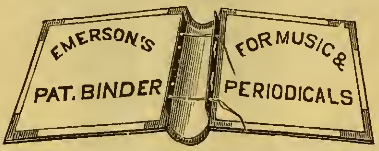
LANGSTROTH'S BEE--HIVES,

Straw Mats, Bee-Veils, Alsike Clover Seed, etc., at reasonable rates.

For further particulars address,

CHAS. F. MUTH, Cincinnati, O.

BINDERS FOR OUR JOURNAL.



We can furnish Emerson's Binders for THE AMERICAN BEE JOURNAL, at the following prices, postage paid:

Cloth (to hold 1 vol.), each....................	.50
Leather and Cloth............................	.75

☞ We can also furnish the Binder for any Paper or Magazine desired.

THOMAS G. NEWMAN & SON,
974 West Madison St., CHICAGO.

Langstroth Bee-Hives,

Prize Honey Boxes and Section Boxes, or Boxes of all kinds, cut, ready to nail, as cheap as the cheapest, material and work taken into consideration.

Address, R. R. MURPHY,
12-2 Garden Plain, Whiteside Co., Ill.

$5. to 20. per day at home. Samples worth $5 free. Address STINSON & Co, Portland, Maine.

HEAD-QUARTERS!

We wish thus early, to inform our friends and patrons that we are in the field and

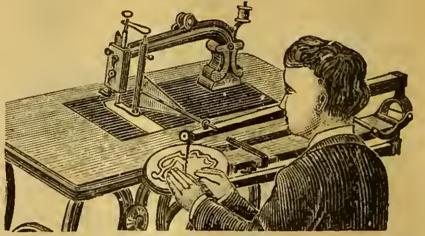
READY FOR BUSINESS!

For the Season of 1879 we shall be the HEADQUARTERS for Langstroth and Modest Hives, Prize Boxes, Separators, and all the necessaries in the bee-keeping line. As we are just a LITTLE AHEAD of ALL COMPETITORS in producing a fine article of COMB FOUNDATION, we shall lead the trade!

Make a note of these points, and write for our NEW PRICE LIST.

J. OATMAN & SONS,
Dundee, Kane Co., Ill.

LETTELIER'S SORRENTO SAW,



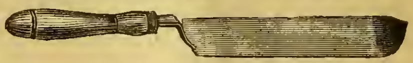
As a Sewing Machine Attachment,

With One Dozen Saws, for $2.50.

This Saw can be attached to any Sewing Machine, and works splendidly. In ordering, say what Sewing Machine is to be used.

To any one sending us three subscribers for one year to the BEE JOURNAL, *with $4.50, we will present one of these Saws. Each Saw is packed in a neat box for shipping, by Express, with full directions for operating*

SCOFIELD HONEY KNIFE,



I can supply these excellent Honey Knives, at $1. each. Address, L. E. STJOHN,
5-tf* Greene, N. Y.

Italian Queen Bees
FOR 1879.

I shall breed Italian Queens for the coming season, from imported mothers of undoubted purity. Safe arrival and purity guaranteed in every shipment. Prices very low. Circulars sent free. Address,

D. P. MYERS,
aply1 West Salem, Wayne Co., Ohio.

$66 a week in your own town. Terms and $5 outfit free. Address H. HALLETT & Co, Portland, Me.

Western Farm Journal!

1879.—24th YEAR.—1879.

The Oldest Agricultural Paper west of the Mississippi river. Long identified with Western Farm Interests. Single, $2; six months, $1; three months, 50c.; three copies, $5; six copies, $9. Extra inducements on larger clubs. Address at either Des Moines, Iowa, or Chicago, WESTERN FARM JOURNAL.

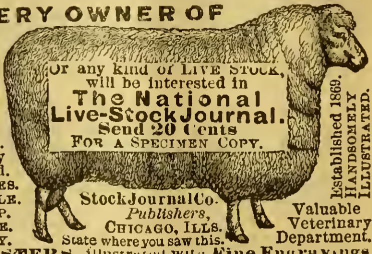
Pure Italian Bees & Poultry

I will continue to rear PURE ITALIAN BEES and eight varieties of PURE BRED POULTRY, at prices to suit the times. Drop a postal for what you want.

R. M. ARGO,
febtf Lowell, Garrard Co., Ky.

EVERY OWNER OF

A



Or any kind of LIVE STOCK, will be interested in

The National Live-Stock Journal.

Send 20 Cents FOR A SPECIMEN COPY.

48 Pages. Nicely Bound.
HORSES.
CATTLE.
SHEEP.
SWINE.
DAIRY.

Established 1869. HANDSOMELY ILLUSTRATED.

StockJournalCo.
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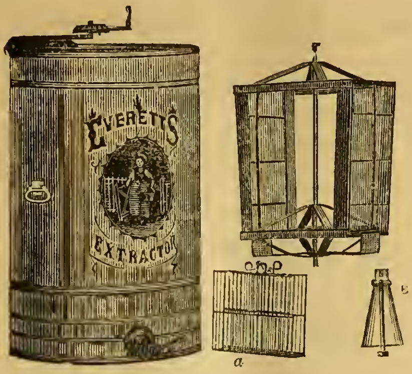
CHICAGO, ILLS.

Valuable Veterinary Department.

State where you saw this.

POSTERS, illustrated with **Fine Engravings** of **Live Stock,** sent free to those who will make up clubs, and a **Liberal Commission allowed.**

Everett's Honey Extractor,



has been wonderfully improved. I have especially improved my gear, fully doubling its strength, and having brass patterns, I will warrant every machine to run perfect; have made several other valuable improvements which will be illustrated in my new circular. "Sent free to all."

The Everett Extractor, with its late improvements, took the highest Award of Merit at the National Convention, or American Institute Fair, New York, 1878. The judges were chosen from practical Bee-Keepers, members of the National Convention.

☞In ordering please state the size of frame used.

For 2 frames, 12x20 inches or less............	$10.00
For 4 frames, 12x20 inches or less.............	14.00

The little extra comb-basket(*a*)"so highly prized by all," will accompany each Extractor. Each Extractor has room for 60 to 100 lbs honey below the comb basket. B. O. EVERETT, Toledo, Ohio.

NELLIS' FLORAL INSTRUCTOR

An elegant illustrated quarterly, devoted to gardening in all its branches, containing a complete list of Seeds, Plants, Bulbs, &c., at reduced prices, also much information. 10c. per year; sample copy and packet of Bee Seed for 3c. Seeds for Bee-keepers a specialty. (1-2) A. C. NELLIS, Canajoharie, N. Y.

BEE-KEEPERS' GUIDE.

A 20-Column Paper, published Monthly by the
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KENDALLVILLE, IND,

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The only Stock Journal published west of the Mississippi, and the leading agricultural paper of Iowa.

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9,100 NOW IN USE. *Unparalleled Success* as a Winter Protector. The CHEAPEST HIVE offered for sale.

Our Improved Honey Extractor	$6 00
" " Wax "	3 50

☞ All styles of Sections very low.

Write your name on a postal card and address W. B. H. Manufactory, Kendallville, Ind., and you will receive valuable information. 1-tf

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ESTABLISHED 1867!

Send for new Price-List of Imported and Home-Bred Queens, Comb Foundation, Hives, Section Boxes, Extractors and Bee-Keepers' Supplies. Also, high-class Poultry. Queen-breeding a specialty. First Premiums awarded us at St. Louis Exposition for 1879, on best Italian Bees and Honey.

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1-6 *CARLINVILLE, ILL.*

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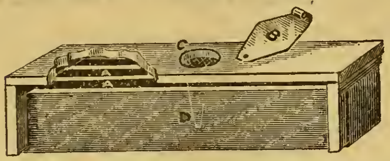
BEE-FEEDER,



Feeds at the front cntrance, any time in the day, without danger from robbers; feeds much or little as may be desired; does not gum up, but always gives down; feed can be reached by the bees only from the inside of the hive, and the feeder may be used to diminish the entrance, or to close it entirely; convenient and pleasant to use; every hive should have one.

Price 30 cents, by mail.

Manufactured only by

J. M. SHUCK,
DES MOINES, IOWA.

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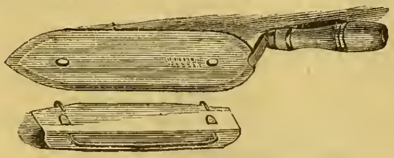

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Bee Hives.

LANGSTROTH
AND
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Single or Double Story.

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See advertisement in the March number of the AMERICAN BEE JOURNAL.

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AND
MAPLE SYRUP.

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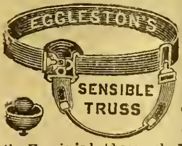
OF
JEFFERSON, WISCONSIN,

hereby respectfully gives notice to the public. that his Circular and Price-List of Italian Bees for the year 1878-9, is ready, and that he is selling at his usual *low* prices. 10-6



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ELASTIC TRUSS

Has a Pad differing from all others, is cup-shape, with Self-Adjusting Ball in center, adapts itself to all positions of the body, while the **BALL** in the cup **PRESSES BACK** the **INTESTINES JUST AS A PERSON WOULD WITH THE FINGER.** With light pressure the Hernia is held securely day and night, and a radical cure certain. It is easy, durable and cheap. Sent by mail. Circulars free. **Eggleston Truss Co., Chicago, Ill.,**
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QUEENS or SWARMS,

from me will get what they bargain for. Send for circulars. tf

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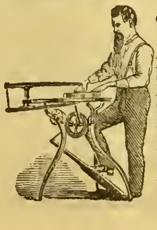
Foot-Power Machinery



CIRCULAR and SCROLL SAWS

Hand, Circular Rip Saws for general heavy and light ripping. Lathes, &c. These machines are especially adapted to **Hive Making.** It will pay every bee-keeper to send for our 48 page Illustrated Catalogue.

W. F. & JOHN BARNES,
Rockford, Winnebago Co., Ill.
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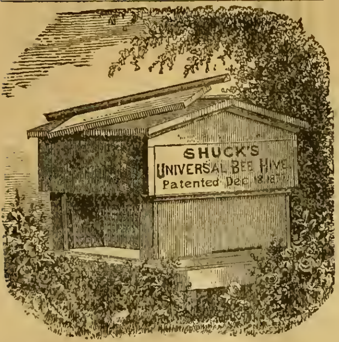

Shuck's Universal Bee Hive.

Devised by a Practical Bee-Keeper for Profitable use.

Double walls with dead-air space. Inside walls are porous, allowing all moisture to escape from the brood chamber, making it sweet and wholesome, even with unsealed stores. Both sides removable. Frames hang upon the tops of the end walls, (not in rabbits,) and are easily handled. Brood chamber enlarged or contracted at the will of the Apiarist, and is complete with one frame or more. Space for surplus honey ample. No temporary covers, sheds or winter repositories are needed. It is complete, and will commend itself to the honey producer.

Individual rights, $10. State rights for sale.

Address

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Des Moines, Iowa.

CHEAP HIVES!

Material, planed on both sides, for a one-story, 8-frame Langstroth, movable-frame hive, with 7-inch cap, including all of material for a complete hive, prepared ready to nail, for 50 cents each.

Nailed and finished complete, 75 cents.

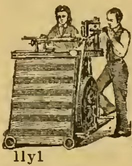
Other sizes proportionally low.

We have improved machinery, specially adapted to this manufacture, and are able to get out a No. 1 hive at these low prices. (THEY ARE NOT POOR BECAUSE CHEAP.) We will also give a liberal discount from these prices on orders of 25 or more at a time. Dove-tailed honey and section boxes VERY CHEAP.

☞ Send for Price-List.

LEWIS & PARKS,

successors to G. B. LEWIS,
12-m6 Watertown, Wis.



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Fret and Scroll Sawing, Turning, Boring, Drilling, Grinding, Polishing, Screw Cutting. Price $5 to $50.

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Gold Any worker can make $12 a day at home. Costly outfit free. Address TRUE & CO, Augusta, Me.

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PHOTO ENGRAVERS
ON WOOD.
COR. CLARK & MONROE STS. CHICAGO.
DEALERS IN ENGRAVING TOOLS & ENGRAVERS OUTFITS.
ORDERS BY MAIL SOLICITED.

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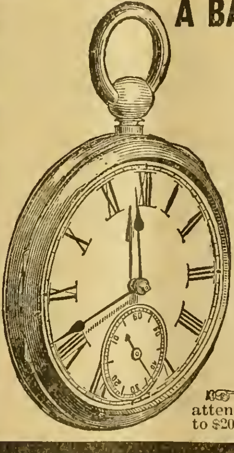
$12 WATCHES

For Only $3 Each.

A BANKRUPT STOCK OF WATCHES,

Warranted for One Year.



This bankrupt stock of Watches must be closed out in **90** days. The **former price of these Watches was $12.00 each.** They are silvered case and open face, all one style, and of French manufacture, the movements of which being well known the world over for their fine finish. They are used on **railroads** and **steamboats**, where **accurate time** is required, and give good satisfaction. Think of it, a $12.00 Watch for **only $3.00,** and **warranted one year for time.**

CINCINNATI, O., October 1st, 1878.

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After the closure of sale of this bankrupt stock of Watches, which will continue **90** days from date of this paper, no order will be filled at less than $12.00 each; so please send your order at once. With each Watch we furnish our **special warrantee for one year for accurate time.** We will forward the Watch promptly on receipt of **$3.00**, or will send C.O.D. if customers desire and remit $1.00 on account.

Address all orders to **Walters Importing Co.,**
180 ELM STREET, CINCINNATI, O.

☞ **TO WATCH SPECULATORS:** We call particular attention to these Watches, as they sell readily at from $12.00 to $20.00 each.

☞ ***Cut this Advertisement Out.***

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Implements for the Apiary

FOR SALE AT THE OFFICE OF

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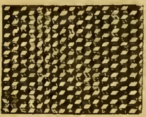
974 West Madison Street, CHICAGO.

HONEY EXTRACTORS.

"The Excelsior"—for any size frame	$12 00
Ditto for extracting four frames at once	15 00
Muth's—for any size frame	12 50
Everett's	8 00 to 12 00
Murphy's	13 00 to 15 00
Chapman's	13 00 to 13 50
White's	10 00 to 15 00
Novice's	7 50 to 9 00
Peabody's—for any size frame	10 00
Hill's Gas-Pipe Extractor	6 50 to 7 00

COMB FOUNDATION.



This consists of sheets of wax rolled through a machine, making indentations that form the foundation of cells, which the bees work out into comb.

Sample, by mail	10c.
Sheets 6x6, sent by mail, per lb.	80c.
Sheets 12x18, packed in boxes, less than 25 lbs., per lb.	55c.
25 to 50 lbs., per lb.	53c.
50 to 100 lbs., per lb.	52c.
100 lbs. or more, per lb.	50c.

BEE FEEDERS.

Simplicity Bee-Feeder, holding 1 pint, by mail	10c.
Shuck's Boss Bee-Feeder, by mail	30c.
Kretchmer's Feeder, by mail	35c.
Van Deusen Bee-Feeder, by mail	75c.
Dunham Feeder, to hang in the hive	75c.

BEE SMOKERS.

Bingham's Patent Smoker, by mail,	$1 00	$1 60	$2 00
The New Quinby Smoker, "		1 50	1 75

When sent to Canada by mail, 20 cents extra.

Sutliff's Smoker, "	2 00
Alley's Smoker, to be held in the mouth, by mail.	.50
Cyranus' " " " "	.35

SEEDS FOR HONEY PLANTS.

Alsike Clover, by express, per pound	40
Melilot Clover, by express, per pound	40

Stands both drouth and frost, and grows on any soil—wet or dry—and in any climate—north, south, east or west. Sow 4 lbs. per acre, alone or with grain.

Catnip	per oz.	20	per lb.	2 00
Chinese Mustard	"	20	"	2 00
Mignonette	"	25	"	3 00
Motherwort	"	20	"	....
Cleome	"	50	"	....
Summer Rape	"	......	"	35
Silver Hull Buckwheat	"	......	"	20
Borage	"	......	"	1 50
Teasel	"	......	"	75
Tulip Trees, 6 to 8 inches high			per dozen	75

If sent by mail, add **20c.** per lb. for postage.

GUMMED HONEY LABELS,

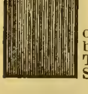
For Honey Jars, with blanks in which to write your name and address, 50c. per 100.

Same, with your name and address printed, 1000 for $5 — 500 for $3.

For Honey Boxes or Large Cans, with blanks in which to write your name and address, 75c. per 100.

Same, with your name and address printed, 1000 for $6 — 500 for $3.50.

REGISTERING SLATES.



Size, 3x4 inches, with a hole in the centre of the top, for hanging them on the hive by a nail. Price, $1.50 for 50; $2.50 for 100. They must be sent by express or freight. Sample by mail and postage, 10 cents.

SQUARE GLASS HONEY JARS.

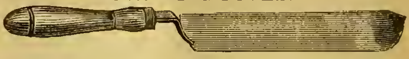
One pound (square) Honey Jars, per gross	$5 00
Two " " " "	7 00
One " " " flint glass, "	......
Two " " " " " "	......
Corks for 1 and 2 lb. jars, per gross	......
Tin Foil Caps " " " "	......
Labels for " " " "	......
1,000 Labels, address printed to order	5 00

Packed in ½-gross boxes, shipped from Cincinnati.

QUEENS AND COLONIES.

Full Colony, with Imported Queen	$12 00
Imported Queens, each	5 00
Full Colony of Italian Bees in Movable-frame Hive	8 00
Nucleus Colony (single frame)	4 00
Tested Queens, after July 1, each.	3.00

HONEY KNIVES.



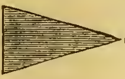
Scofield's (see cut)	$1 00
Bingham & Hethington's, without cap-catcher	1 00
" " with "	1 25
Novice's (straight or curved)	1 00
Murphy's	1 00
Peabody's	1 00
Muth's	50

[Honey Knives are not mailable.]

QUEEN CAGES.

Novice's provisioned Shipping Cage, by mail	10c.
" " " per doz., by express,	60c.
Scovell's " " Cage, by mail	10c.
" " " per doz., by express,	60c.
Wire Introducing Cages, by mail	25c.

TIN POINTS, FOR GLASSING BOXES.



Put up in lots of 1,000, and sent by mail, postpaid, for	.50
The same, by express or freight	.40
From 5,000 to 10,000, by express, per 1,000	.30

HOGE'S COMB-HONEY CARRIER.

Containing a Prize Crate and 12 Prize Boxes $2 00

MISCELLANEOUS.

Dial Spring Balance, for weighing hives (60 lbs)	8 00
Honey Gates	75
Novice's Metal Corners, per 100	1 00
Novice's Iron Blocks, for frame making	25
Scissors for clipping Queen's Wings	50
Queen Registering Cards, per doz	10
Bee Veils—Complete face protection	75
Novice's Clasps for Transferring, per 100	35
Kretchmer's Metal Bearings, per 100, by mail	15
Salicylic Acid, for foul brood, per oz	50
Wire Cloth for extractor, tinned, per square foot	15
" " " Queen Cages, " " "	12
" " painted,—14 mesh to 1 inch	10
Gearing for Honey Extractors	2 00
Wax Extractor	3 50
" " with Copper-bottomed Boiler	5 00
Atomizers, for spraying or sprinkling queens, bees, brood and comb	1 00
Long Rubber Gloves, per pair	2 00
Soft Leather Gloves, per pair	1 00

[To ascertain the size required, lay the open hand palm down, on a sheet of paper, and mark around both hand and fingers with a pencil.]

Send by Postal Money Order, Draft or Registered Letter at our risk,

THOMAS G. NEWMAN & SON, 974 WEST MADISON STREET, CHICAGO.

THE AMERICAN BEE JOURNAL

Devoted Exclusively to Bee Culture.

VOL. XV. CHICAGO, ILLINOIS, FEBRUARY, 1879. No. 2.

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Editor's Table.

☞ Now is the time to procure hives, and boxes, for the next season.

☞ The late cold weather has been very destructive to many colonies that were left unprotected on their summer stands, but those that were properly cared for, either by packing or being carried to winter repositories are all right.

☞ "Are separators necessary?" asks one. We say emphatically. *Yes!* That is if it is desired to have the sections so that they will pack nicely in crates, and carry without leaking about everything. If not used, the combs will be built uneven, and one will crowd on to the other, and mash down, making bad work alike for the shipper, the dealer and the consumer!

☞ The very interesting article descriptive of the different races of bees, by Frank Benton, as given on page 73 of this JOURNAL, will be read with considerable interest by all.

☞ The Michigan *Farmer*, remarks that "the use of glucose has resulted in great damage to the apiarian interest of the country, and Mr. Chas. Dadant, Dr. R. C. Kedzie, Prof. A. J. Cook, Mr. C. F. Muth, and the AMERICAN BEE JOURNAL, are all deserving of great credit for their efforts against the practice, and towards the securing of proper legislation to suppress the adulteration of honey."

About that Honey Confiscation.

New York, Jan. 23, 1879.

EDITOR AMERICAN BEE JOURNAL:—The January number of your Journal contained an editorial, saying: "The *Board of Trade Gazette* informs us, that the large lot of honey, sent to Liverpool by Thurber & Co., of New York, last November, has been condemned by the British authorities on account of adulteration."

Considering that nothing of the kind ever happened, we think that you owe us an apology for the announcement; the more so, because the "*Board of Trade Gazette*," while giving currency to a malicious rumor, started by a jealous enemy, did not mention the name of Thurber in conjunction therewith.

The only possible foundation that there could be for such a report, was the summoning some months since of an English grocer, under the British adulteration act, for selling honey in glass jars—the liquid portion of which had been mixed with glucose, of which there was no notice upon the label. A small fine was imposed; but no seizure made; and this occurrence happened about one year ago; so it could have no legitimate connection with our shipment of honey in November, which, as stated in your article, was in the comb.

We have spent a great deal of money in the development of this industry; have taken much pains to forward its interests: and we think it a poor return, that the AMERICAN BEE JOURNAL should lend its columns to spread false reports, or magnify true ones.

We have no desire to discuss the question, which bee-keepers are a great deal better able to decide than we are, as to whether glucose ought to be utilized for feeding bees. We ourselves, as well as other dealers in honey, have put up broken combs in glass jars, filling the spaces around the comb with a mixture of honey and glucose, which will not candy or congeal, as will pure honey—this result being demanded both by the retail dealer and the consumer. We have never, for a moment, concealed this practice; and are now putting a notice to this effect upon every jar packed by us, whether for export or home trade, as we believe that the consumer has a right to know just what he is getting.

Pure glucose, which is nothing more nor less than a syrup made from corn, is as wholesome as honey, and, we believe, is as legitimate a commercial product.

We do not however, believe that glucose ought to be sold as honey; but, if the public like, and *will buy*, a mixture, it is all right for them to do so; and we do not think that bee-keepers will gain anything by trying to excite public prejudice through false reports, as regards its wholesomeness.

It does not matter much to us, however, as nine-tenths of the honey which we handle, is in the comb; and we prefer to handle it in this shape, whenever we can do so.

Of late, however, certain veracious (?) individuals in New York have sought to prejudice the public against comb honey, by asserting, that so ingenious have the adulterators become, that they extract the honey from the cells, fill them up with glucose, and palm them off upon an unsuspecting public as pure honey.

Of course, this will make apiarists smile; but just at a time when there is an epidemic of adulteration hue-and-cries, even such reports as these will be believed by some people; and, if it has the effect of injuring the consumption of honey, we believe that the people who spread such reports, will be more to blame for the injury done the bee industry, than those dealers, who mix glucose with the liquid portion of the honey, which, at the demand of the consumer, and retailer, is put up with the comb in glass jars.

Respectfully yours,
H. K. & F. B. THURBER & Co.

The article on which our remarks upon this subject was based in the last BEE JOURNAL, is copied from the *Board of Trade Gazette*, of Dec. 7th, 1878, and reads as follows:

> "AMERICAN HONEY.—Those who knew about the consumption of honey in Europe, very gladly received the information that American honey in large quantities would be imported by England. When it was stated that a well-known and very progressive firm in New York had forwarded a whole cargo of this nutriment to Liverpool, many congratulations were interchanged. Now the news arrives that accusations of adulteration have been made and that the British government had ordered the confiscation of the mixture consigned as United States Honey. This is too bad."

We certainly had *no* desire to misrepresent any one or anything, and do not even now see how we could have obtained any other idea from the *Board of Trade Gazette*, than that expressed in our last issue.

We never heard that any one but Messrs. Thurber & Co., ever sent a "*whole cargo*" of honey to Liverpool, and as they did send such a cargo in November, we innocently concluded that was the exportation alluded to. The *Board of Trade Gazette*, adds: "Now," (not a year ago) "the news arrives" about "adulteration" and "confiscation" by "the British authorities," of this cargo of "United States Honey"!!

If the *Board of Trade Gazette* gave "currency to a malicious rumor, started by a jealous enemy," as Mr. Thurber states, *it was to blame*—not the AMERICAN BEE JOURNAL; it made legitimate conclusions merely from the statements of the *Gazette*!

We are exceedingly glad, however, to

be assured by Mr. Thurber that the "cargo" of comb honey has *not* been confiscated! His language is explicit and allays our fears—he says "nothing of the kind ever happened"!

We have repeatedly acknowledged the exertions of Messrs. Thurber as praiseworthy, and deserving the thanks of all bee-keepers, for, in so large a measure, creating a demand for honey. We cannot, however, approve of the adulteration of extracted honey with glucose, which Mr. Thurber admits is practiced by his firm.

The *British Bee Journal* for January contains the analysis by Dr. Clarke, of Glasgow, of the honey which a grocer of that city was fined for selling, and says it was "California white comb honey from H. K. & F. B. Thurber & Co." The analysis showed glucose 57 per cent.; water 13.3 per cent. and fruit sugar 29.7—and the "Caledonian Apiarian Society," by its Secretary, adds: "The sample consisted partly of comb, and partly of syrup. The syrup had no taste of honey." At that time we could not think that Thurber & Co., had anything to do with it, and so stated in the JOURNAL. We gave that firm credit for more sagacity than to take such an adulteration to Britain, where stringent laws against adulteration were in force.

But the "cargo" of honey sent to Liverpool was "honey in the comb" and if it was adulterated it must have been done by feeding the bees upon glucose. *Therefore*, if it had been confiscated, Messrs. Thurber & Co. would have been the *victims*, not the adulterators! We do not see that we owe them any apology; and if they will re-read our remarks in the BEE JOURNAL for January, they will, we think, be of the same opinion. We made no allusions to them, except as the exporters of the honey they had bought—and if it was adulterated, they as merchants buying and selling an article in unbroken packages, were of course entirely innocent!

We do not believe that any considerable portion of honey is adulterated by the bees being fed upon glucose, as yet. Let all take warning, and discontinue so dangerous a practice at once and forever!

Petitions on Adulteration.

Concerning their presentation to Congress, Mr. Dadant says:

"That will depend on the committee of ways and means, which has to present a report on the frauds on sugar, at the Custom House of New York. The presentation of the petition will accompany this report and one will help the other. I suppose that Congress will appoint a committee to prepare a bill; till then we can have petitions signed and sent to Washington. Every one can send the petitions to the representative of his county; or, if preferred, the petitions can be sent to me and I will forward them to Washington.

"Prof. Cook has advised me that the legislature of Michigan has passed a joint resolution requesting the representatives of that State in Congress to use all possible means to obtain the passage of a law against adulteration. This is a good move.

"Several other legislatures will take similar steps. I cannot too strongly urge every one, who knows some member of their legislature, to write to them in order to obtain a similar move. With such help we can take Congress by storm.'" CHAS. DADANT.

The "joint resolutions" as passed by the Michigan Legislature read as follows:

JOINT RESOLUTION FOR THE PREVENTION OE ADULTERATION OF HONEY.

Resolved by the Senate and House of Representatives of the State of Michigan, That our Senators and Representatives in Congress be respectfully requested to use their influence for the passage of the bill now pending before Congress prohibiting the adulteration of honey.

Resolved, That his Excellency the Governor be requested to transmit copies of the foregoing resolution to each of our Senators and Representatives in Congress.

As yet, there is no Bill before Congress and all petitions are referred to the Judiciary Committee. We hope similar action will be taken by the Legislatures of every State.

Dr. J. W. Greene, of Chillicothe, Mo, has made arrangements for the offering of the following resolution in the Missouri State Legislature, and suggest that the bee-keepers of the other States copy it, or prepare a better one, and cause the same to pass in the legislatures of all the several states this winter. The manufacturers of all articles of food, drink or medicine, ought to be required to label their goods, giving ingredients in compounds also proportions.

A concurrent resolution looking to the protection of Bee Culture in the United States.

Whereas, The production and exportation of honey is an honest and honorable industry, of respectable and fast growing importance in the United States, the entire proceeds of which is clear gain to the country ; and

Whereas, The business of the producer, and the health of the consumer are being jeopardized and damaged by the wholesale and retail adulteration of honey and the manufacture of deleterious compounds sold at home and exported abroad as "Pure American Honey"; now therefore, be it

Resolved, By the 30th General Assembly of the State of Missouri that our Honorable Senators be instructed, and our Members of Congress requested to introduce and have enacted into laws, measures for the protection of said interests, by the suppression of the evils herein complained of.

◆

LARGE YIELD.— The following was read before the Carson City Convention, and is sent to us by the Secretary as a specimen of one of the largest yields on record. It was given by D. Gardner as the result of his apiary for 1878, which consisted of 46 colonies of black bees. In it he has not included the honey used by his family or given to friends. The work of the apiary was all done by himself. The total yield of honey is about 5450 lbs..

RECEIPTS.

1671 lbs. comb honey	$255 54
1495 lbs. extracted honey	142 05
32½ lbs. beeswax	8 04
25 colonies sold at $5.00 each	125 00
Total cash received	$530 63
5¾ bbls honey on hand	$170 00
150 lbs comb honey on hand	23 00
21 colonies increase, @$5.00	105 00
200 extra combs built this season	20 00
Total income	$848 63

This is an exceptional case, and should not lead any one to expect like results.

◆

☞ We received from Mr. J. W. Winder, on New Year's day, some bloom of the Japan plum and roses, which he had just taken from the trees in his yard. They were fresh and fragrant. There he says the thermometer indicated 60°. In Chicago it was about 20° below zero. Truly, we have a vast country, with all kinds of climates. Mr. A. S. Collins, of New Orleans, has sent us some bloom from this Plum.

HOW TO EXHIBIT BEES.—Thomas Brasel, of Portland, Oregon, asks how to prepare bees for exhibition at fairs, whether they should be confined to the hive—and whether they should be placed in a light or dark place in the pavilion? Of course they must be confined, for the time being, but there is no necessity for them to be placed in the dark, else how can they be exhibited ? Such are usually objects of much interest at a fair, and all want to watch their movements.

◆

☞ The first number of the *Bee-Keepers' Instructor*, is on our table. It contains 12 pages, but no cover, and is published by S. D. Reigel, at Adelphi, O. The printing is fairly done, but the edges are untrimmed, and the stitching is suggestive of the want of modern ideas in publishing, as it is done on a sewing machine. Mr. R., has a hive much like Hill's American Hive, and sells apiarian supplies, and that may be the object of the existence of the *Instructor*. The following glowing account of profits, by the editor, looks that way :

"The profits realized from intelligent bee-keeping average from 100 to 200 per cent. on the capital invested. Taking into consideration, then, the great progress made within a few years in this industry, may we not reasonably expect it will, ere long, be classed among the leading industries of our country, and show a revenue of untold millions ?"

◆

GOOD AND BEAUTIFUL.—Our readers who are not acquainted with the fact may be benefitted by being informed that one of the handsomest Magazines in existence is *Vick's Illustrated Monthly Magazine*, published by Mr. JAMES VICK, Rochester, N. Y. Each number contains one or more beautiful *Colored Plates*, representing some flower or family of flowers, worth more than the price of the Magazine.

◆

☞ The Rev. L. Johnson, Walton, Ky., writes : "Success to the AMERICAN BEE JOURNAL ; the January number is worth more than the whole volume costs."

◆

☞ John Scheerer, Ridgeley, Mo., thus describes his one-cent honey board :

"Tack a piece of muslin about the size of the honey board to the lower side of it ; make an opening through the board to pour in the feed, and a thin strip to cover the opening. With this, bees can be fed any time, being immediately over the cluster."

How to Protect an Apiary.

Mr. F. W. Chapman asked in our last issue, how to protect an apiary from human robbers. Below we give two plans as suggested by our correspondents. We have a plan of an electric arrangement which will be published in our next JOURNAL:

Bristol, Vt., Jan. 10, 1879.

The best plan I know of, and one that has always worked well with me, is generosity and kindness! I have one apiary 5 miles from home and ½ mile from quite a settlement, which has no other protection from robbers, and I do not know that I ever lost an ounce of honey or a hive of bees! In the honey season I always have a plenty of honey and spoons expressly for visitors, and all understand that honey is free at this season of the year, and if my callers have any empty vessel they are supplied with a little honey to carry home. I have an apiary at home together with a large number of grape vines and other fruit in the heart of quite a village, and I have never had any bees, fruit, or honey stolen. The boys all know that if they call on us they will be supplied with what they want to eat. I advise all who are troubled with human robbers to try this plan, and I think they will soon find that the ones who now steal from them, would fight for them, if necessary.

A. E. MANUM.

ANOTHER PLAN.

I consider the business end of a bee the best protection against robbers in the daytime. In the winter the best plan is to have the bees in a house under lock and key.

To protect them during summer nights, the time usually taken for stealing, build a fence around the apiary sufficiently high to keep a ferocious dog inside. Have only one entrance to the yard and keep it locked up doing the night. Probably the best dog for this purpose is a blood-hound. Get a Cuban if you can, but one from the "Old Dominion" will do. I consider the blood-hound the best for three reasons. He will scent a stranger the quickest. He will always give a peculiar yell on scenting a stranger in the night. The blood-hound is reared in a land where the people believe in that kind of protection against thieves.

The next best is the bull or mastiff. Never get a half-blood, but get a full-blooded dog, and one that is true to his nature. Get a pup and train him your self. It is dangerous dealing in strange watch dogs. If they are good for any thing they will mind no one but the man who trained them.

When the dog is old enough to take charge of the apiary, chain him up in the day-time and turn him loose in the yard during the night. This will have a tendency to make him sleep in the day and watch in the night. Teach him that any one who comes into that enclosure except by the door is a "thief and a robber" If you have occasion to go into the yard when the dog is in there, never break the above rule, always enter through the gate, calling the dog by name before you try to enter. Teach him that he has a perfect right to make a meal of anyone who climbs over the fence after dark. You may do this by having a stranger attempt to enter in the night, when you are near to hiss him on. After you have hissed him on, never call him off, if he is in the yard. In connection with the word you use to set him on use the words "get out." Never use these words at any other time.

In a short time you will have your dog trained so that when a man gets on to the fence in the night, and says, "get out," he will have to kill the dog to get any further. The dog meanwhile will give all the alarm necessary to arouse any one within a half-mile. Never allow him to give a false alarm.

The greatest objection to a watch dog is, it is possible for him to be poisoned. You may guard against this, by having a stranger approach and throw him something to eat, but you must not allow him to touch it. If he persists in so doing, punish him for it. Never feed the dog in the yard, but take his breakfast to him after securing him in the morning. Snap the chain into his collar and then feed him outside of the gate.

If these directions are followed I think they will prove the best protection against honey thieves. WM. C. LEONARD.

Berkshire, N. Y.

☞ Mr. Frank Benton is conducting the Apiarian Column of the *Michigan Farmer*, published in Detroit.

☞ We have engaged to attend the Southern Kentucky Convention at Gainsville, on May 1st, and hope to see a large attendance.

☞ We have received some exceedingly nice, white and smooth material for a section box, from Mr. A. E. Manum. It is very attractive.

☞ We have in our museum a 6 inch comb foundation machine made by Mr. John Bourgmeyer, with samples of comb foundation made on it. For a cheap machine, it does excellent work.

☞ The *Bienen-Zuechter*, published by Dennler & Zwilling, at Strasbourg, the organ of the bee-keepers of Alsace and Lorrain, contains an unsolicited, notice of the AMERICAN BEE JOURNAL. Thanks.

☞ Slabbekoorn Brothers of Zeeland, Mich., have sent us a cap for hives, covered with shingles. 1,000 shingles will cover 30 hives and make them water-proof, but the labor of making the frame, sheeting and shingling we think will offset any advantage that may be claimed for it. It is added to our Museum.

Selling Receipts.—Many have of late written to us to inquire about several bee-receipt peddlars. There seems to be a host of such now flooding the country. One man in Missouri has paid $5.00 for the following very interesting document, which we print *verbatim et literatim.*

> Importnat to Bee Owners.—How to keep out the Miller; Use Smalt's emery or pulverized glass, by sprinkling it on the hive before the paint dries.
>
> What to feed to raise young broods; Take one part white of egg, and one part loaf sugar.
>
> What to feed your bees: Use three parts rye flower and one part salt.
>
> How to transfer bees; Blow smoke in the entrance of the bee, knock on the hive and the bees will go up in the hive, let them fill themselves with honey, then turn the hive upside down, and place your empty gum over it and knock on the empty gum.
>
> How to tell when your bees are going to swarm; Go to your hive about fifteen days after the bloom has come, and if they are going to swarm you will hear the young queens around the bottom whistling, then prepare your hive as follows: Wash the hive out with sweet or salt water, place your hive ten feet in front of your hive, cover it over with green brush.
>
> How to hive bees; Sprinkle about a pint of sweet water over them, let them stand a minute, then take a box and climb to where your bees are, and hold your box over them and tap on the hive, and the bees will walk up, then let your box down and place your hive over it and tap on it and the bees will walk up.
>
> Home of bees, 18 inches high and 14 inches square, side winks 26 inches long 14 inches wide and 8 inches deep, slabs 1½ inches wide and one-half inch space between.

It abounds in peculiarities and nonsensicalities—such as "blow the smoke in the entrance of the bee," the "whistling of the queen," &c.

The pulverized glass would not do much harm to anything, but the "egg and loaf sugar" would not raise brood without pollen. Evidently the author of this costly receipt does not know what is meant by "transferring bees."

The "whistling" he refers to, is only heard before the issuing of after swarms, as a rule, and then with many exceptions.

His hiving directions are a hundred years behind the times, and his hive must be a worthless trap.

◆

☞ Science, not luck, gives success.

New Foundation.—We have received a package of the *new* comb foundation, and it is a delight to look at it—so perfect, so transcendently beautiful is it, that one cannot view it without admiration!

That with wire, for use in the breeding apartment, is from 4 to 6 square feet to the pound. Without wire it is so thin that it will take from 10 to 12 square feet to make a pound. Capt. Hetherington says that after two years' experience he would not be without the wire in any foundation he uses in the brood chamber for any reasonable consideration. He has about 7,000 full frames of it.

One thing to be observed is the very fine side walls on some of the samples of the extra thin. The amount of wax in the side walls determines the number of square feet to the pound. This can be changed to meet the wishes of the consumer. We think, however, that a good bold side wall is advantageous enough to compensate for the extra weight of the sheets.

◆

Hives.—We have received at our Museum the following hives. "Shuck's Universal Bee Hive," described on page 96, and "Elvin Armstrong's Centennial Hive," described on page 91, and "F. A. Snell's Eclipse Hive." Each of these gentlemen have a hive peculiarly their own, and are energetically at work introducing them. Each one is held in esteem by many apiarists, who favor the peculiarty found in each one. As before remarked, thorough and scientific management have more to do with success, than any peculiarity in the hive; for men will differ about the selection of a hive, as they do about selecting a wife, choosing a political creed or embracing a religious faith. There are hives enough now in use to please all, no matter how fastidious they may be.

◆

☞ During the past year San Diego county, California, exported 1,490,240 lbs. of honey; (954,480 lbs. of it being comb honey, and 535,860 ℔s. extracted), and 24,440 ℔s. of beeswax.

STATISTICAL TABLE — FALL OF 1878.

Continued from page 357 of the JOURNAL for October, 1878.

NAME.	LOCATION. County and State.	No. of Colonies Fall of 1877.	No. of Colonies Spring of 1878.	No. of Colonies Fall of 1878.	No. Wintered out-doors.	No. Wintered in-doors.	No. Wintered packed in chaff	Comb Honey.	Ext'd Honey.	Beeswax.
Banes, Jos. D.	Floyd, Ind.	7	7	8	....	7	....	340	35	....
Boothe, H. K.	Cortland, N. Y.	46	43	62	3	43	....	3930	190	4
Burnes, W. T.	Trempealeau, Wis.	2	2	4	....	2	....	80	....	....
Clarke, Geo. E.	Medina, O.	9	†12	23	9	....	9	200	300	....
Dick, T. H. & Bro.	Highland, O.	57	57	71	57	....	13	2100	....	....
Doodge, S. C.	Hamilton, Tenn.	14	14	29	14	....	....	300	250	5
Duncan, R.	Winona, Minn.	4	4	9	4	....	....	45	....	....
Edwards, W. P.	Onondaga, N. Y.	28	26	29	28	....	28	955	279	15
Eggleston, J. F.	Warren, Pa.	51	51	72	14	37	14	1300	700	15
Eley, E.	Winona, Minn.	6	4	7	....	6	....	12	....	....
Ensign, O. F.	Defiance, O.	....	1	4	....	....	....	40	20	....
Erwin, Jas.	Warren, Ky.	45	43	75	45	....	5	232	968	30
Evens, D.	Winona, Minn.	16	11	23	16	....	....	200	....	....
Farr, F. J.	Jackson, Mo.	75	74	†135	....	75	....	3800	75	25
Gardner, D.	Montcalm, Mich.	....	§46	67	....	....	....	1871	3595	33
Given, D. S.	Vermillion, Ill.	36	†37	69	36	....	36	312	6000	40
Goodhue, F. A.	Trempealeau, Wis.	75	70	88	75	....	....	750	....	....
Hamilton, W. C.	Audrian, Mo.	25	25	70	25	....	....	1000	....	10
Horner, G. W.	Dubugue, Iowa	34	34	49	34	....	1	4000	3000	100
Isham, C. R.	Wyoming, N. Y.	....	....	135	....	....	....	10000	....	....
Kopps, Ch.	Winona, Minn.	2	2	6	....	2	....	60	250	....
McColm, J. N.	Sheboygan, Wis.	98	87	93	16	82	16	1520	700	16
McKinney, J. W.	Douglass, Ill.	170	170	190	42	88	....	5200	....	....
Meyer, Jno. F.	Wyandotte, Kan.	20	20	50	1	19	1	100	1500	15
Miller, C. C.	McHenry, Ill.	128	128	160	....	128	...	5000	....	....
Morris, Wm.	Fremont, Iowa	54	54	82	54	....	54	130	6810	20
Newhans, H.	Racine, Wis.	18	18	42	....	18	....	....	299	....
Newton, R. L.	Winona, Minn.	22	18	33	....	18	4	....	....	....
Parsons, Geo.	Winona, Minn.	42	38	77	....	42	....	100	650	....
Patterson Jacob	Butler, Pa.	111	111	§172	1	110	....	4000	....	50
Pennoyer, L. A.	Winona, Minn.	2	2	9	....	2	....	25	60	....
Roberts, L. M.	Jefferson, Wis.	55	53	69	....	53	....	150	500	3
Robinson, Frank	Chenango, N. Y.	9	9	16	9	...	9	257	148	5
Ruggles, S.	Saratoga, N. Y.	95	85	†192	....	95	....	9000	300	30
Sherffins, P.	Winona, Minn.	2	2	4	....	2	....	60	45	....
Smith, C. T.	St. Clair, Ill.	74	65	75	74	....	....	42	100	20
Stanley, G. W.	Wyoming, N. Y.	....	....	50	....	....	....	5000	500	....
Steed, A. M	Warren, Va.	54	54	87	52	2	52	300	350	12
Stickney, W. H.	Blackhawk, Iowa	33	33	50	....	33	....	1000	300	13
Van Horn, G. A.	Lucas, O.	11	§8	20	11	....	11	....	987	24
Willep, T. J.	Vermillion, Ill.	....	6	12	....	....	....	....	500	....
Wolverton, Chas.	Vermillion, Ill.	32	24	48	32	....	....	1400	....	....

REFERENCES.—* Estimated to the end of the season ; † Purchased some ; § Sold some ; ‡ Raised and sold queens.

Foreign Notes.

German and Austrian Convention.

BY RUDOLF MAYERHOEFFER.

I herewith present the many readers of the AMERICAN BEE JOURNAL with a short report of the XXIII Annual meeting of the German and Austrian Bee-Keepers' Convention, which was held at Greefswald, in Pomerania, from the 10th to the 13th of Sept., 1878. About 900 bee-keepers were present and participated in the deliberations. The weather was excellent. The city has a population of 18,000. They are generally very intellectual, and of an exceedingly humorous disposition. Our re-union was quite an event for the exceedingly quiet community. Nearly all the houses being decorated with flags and the people in holiday attire. Although I have attended many similar meetings, I am obliged to avow that this was one of the most successful and interesting. The success was attributable to the very excellent preparation and management of the two Presidents—Count Behr-Negendank, and Professor Munter—and the Secretary, Lady Munter, an exceedingly accomplished and amiable lady.

The exhibition was grand, and demonstrated the state of perfection to which the bee-keepers of Pomerania had arrived in scientific apiculture. The display of honey and wax was splendid. M. De Corswant brought a nice collection of honey in the comb put up in fanciful shapes, resembling pieces of cheese, butter, oranges and other fruits.

Another exhibit in the shape of a crown, was very much admired. Still another displayed a nice comb, 3 feet in height!

Pastor Rabborn and his lady exhibited liquors made with honey, and fruits preserved in that delicious nectar.

Also boxes of honey, from 3 lbs. to 1 lb. each, known as Pomeranian honey, were exhibited. Many of such are exported to St. Petersburg annually. A very nice collection of these small boxes was displayed by M. Biesenshall.

In the group of bee hives some of the American hives were shown. Also the rotating hive from Riga, but bee-keepers did not generally approve of it. Another, intended for migratory bee-keeping, was exhibited by M. Hilbert.

The greatest attraction was the new invention of M. Pastor Knoblauch for artificially sealing the cells. It is called Columbus' egg, but I should call it Satans' egg. It can be of no practical use to bee-keepers. When honey is unripe, it is useless to seal up the cells. Only adulterators will favor it. The sealing is coarse and rough, but it may in time be improved, so that it may equal natural sealing, but of what use is it to honest bee-keepers?

The questions discussed I will leave to another letter.

The next meeting will be held at Prague. My proposition to make that meeting an international exhibition receives much favor.

Prague, Austria, Dec. 17, 1878.

Foreign Items.

GLEANED BY FRANK BENTON.

SWALLOWS.—Prof. Cook says in his "Manual," that, though European swallows do capture and eat worker-bees, in view of the good they do in destroying injurious insects, he would be slow in recommending the death warrant for them. Herr Julius Lippert, the learned author of the German work, "The Farmer's Guests in House and Yard, Meadow and Field," is a zealous defender of the swallows. He says in the work just mentioned: "Swallows live exclusively on flying insects, but not on such as possess poisonous stings. "The editor of the *Bienen-Zuechter* remarks: "We request our readers to make exact observations relative to the possible damages inflicted in apiaries by swallows, and to communicate the same to us. Let us, however, always be merciful toward these sprightly little creatures, which, only now and then, when other food fails them, attack our bees."

MELILOT.—Of melilot (*Melilotus officinalis*) Ch. Zwilling, one of the editors of the apiarian journal of Alsace and Lorraine, says: "Its little pendant yellow flowers, disposed in delicate, elongated racemes, exhale an agreeable odor and are very rich in honey. They are assiduously frequented by the bees till they commence to fade."

HONEY ADULTERATION IN FRANCE.—From *L'Apiculteur* (Paris) the following is taken: "During the years of medium harvests, and consequent high prices of the product, adulterators spring up. Our attention is called to a suit pending at Amiens, between a purchaser to whom native honey was to have been supplied, and a Parisian dealer who, it is claimed, furnished instead, honey from Chili, re-melted and more or less sweetened. We shall endeavor to ascertain the decision of the jury. What ought to be asked of the judges, is, publicity of the decision, if they do not wish similar cases to be repeated; for the scoundrels fear neither fines nor imprisonment; they only fear publicity, which alone is able to keep them from becoming rich.

"We will not change the subject much if we proceed to consider the enticers—those who deceive the public by means of labels, and they are quite numerous. There are, for example, those who deal in honey said to be from Narbonne, Chamouny, the upper Pyrenees, etc., but which is gathered at Pantin or Pontoise (villages in France).

"For some time there has been before the stores of dealers in comb honey the advertisement in large characters: 'California honey,' by the side of that announcing Mocha from Zanzibar or from Pondicherry (read: chiccory from Cambray). It appears that the consumers who have suffered themselves to be taken by this and have tasted of honey fraudulently labeled as coming from the land of golden ingots, have found at the first trial the expression which best tells the quality of it: Pooh!"

Correspondence.

For the American Bee Journal.

Something About Bee Hives.

BY G. M. DOOLITTLE.

Ten or fifteen years ago Langstroth, Quinby, Gallup, and others, gave as a standard hive, a brood-chamber of 2,000 cubic inches; while others went so far as to say 2,500 to 3,000 were preferable, and this for box honey, as the extractor was unknown at that time. The Langstroth hive held 10 frames about 16½x8½ inside measure, which would give about 2,175 cubic inches inside the frames, or 1,450 square inches of comb. To-day we have many who advoctate a hive for box honey of like capacity while a few prefer a brood-chamber of about two-thirds that size. As the size of the brood-chamber has much to do with the average yield of box honey, perhaps it would be well to look into this matter a little. Queens as a rule will not occupy more than 800 square inches of comb with brood for any length of time; therefore it will be seen, that if we use 10 Langstroth frames, we have 650 square inches of comb to be occupied with honey and pollen. In case we hive a new swarm in such a hive we shall have from 500 to 600 square inches of comb filled with the best of honey which would be from 25 to 30 lbs. We are told that this extra room is needed in case of a poor season so as to insure honey enough for safe wintering. So each year our bees are wintered on from 25 to 30 lbs. of the very best of honey which should go in the boxes and be turned into cash, and in case of a poor season the bees should be looked after to see if they have honey enough for winter and if not, they should be fed sugar syrup, if you do not have a surplus of extracted honey. In order not to get any pollen in our boxes we will allow 200 square inches of comb (above the 800 the queen occupies) for that and the little honey they always will have in the upper corners of the frames, so we have 1,000 square inches comb space or about 1,500 cubic inches as the right size for the brood chamber, regardless of what style of frame is used. Of course the frames will not always give just this number of square inches inside of them, but use the number that comes the nearest to it. For instance I use 9 Gallup frames which give 1,035 square inches of comb, while if I used but 8 it would give me but 920. To get the square inches of comb in the frame, multiply the length by the depth, then use the number of frames which come the nearest to 1,000 inches. Mr. Gallup used 12 frames in his hive and as he was my teacher, I of course, used the same number. But some 5 years ago I reduced them to 9 by using 3 blank boards in place of the frames. The number of frames can be reduced at any time in this way, with but little expense, and that too without disturbing the hive at all. These boards are made of inch lumber, the size of the inside of the hive (fitting loosely) below the rabbets with the top bar of a frame nailed thereto, so it hangs in the hive just like a frame. I call them division boards, as I use them in building up weak colonies, securing straight combs, &c.

Hives should be so made that all the bees can be kept profitably at work, and if you have a three frame nucleus well supplied with bees and a queen, you should be able to get just as much box honey from it, in proportion to its numbers, as from a full colony. Unless a hive is calculated for this, it is lacking just one important feature. Also, to secure the best results, the hive should be made so as to admit of the use of side boxes as well as top, and these should be interchangable, so that the partly filled boxes at the sides can be raised to the top as the full ones are taken off, and empty boxes with starters placed at the side, in place of those raised to the top, on the principle that bees build comb faster at the sides, and store honey faster at the top.

By this plan you have boxes in all stages of advancement and this obviates the difficulty, so often experienced, of having a full set of boxes come off at once. We all know how loth the bees are to take possession of a second set of boxes when a full set has been taken off.

To get the bees started in the top boxes first, the center tier should have full combs in them, so they may come off first. But no hive, however well adapted to securing surplus honey, will give large returns unless properly managed. It is the management of hives that gives the practical apiarist good returns of snowy-white comb honey such as sells readily in any market, when a second quality would be a drug. The hives must deligently be looked after from the time spring opens till the bees are ready for winter.

One secret of success in getting box honey is to get the brood combs all occupied with brood before the honey harvest commences, so that when the harvest opens, the bees are obliged to put the honey in the boxes, or not store any at all. If we use a small brood-chamber it will be seen that the brood comes clear to the tops and sides of the frames or hive, and consequently very close to the boxes, both at the sides and top, hence the bees readily enter the boxes, while with a large brood-chamber, the bees store the comb the queen does not occupy, with honey at the beginning of the harvest, so that the boxes are excluded from the brood by several inches of sealed honey, therefore they do not readily enter them. This I think fully accounts for our hearing so much about the Italians not entering the boxes as readily as the blacks.

I never yet had a colony of Italians refuse to go into the boxes, when they were in proper condition for storing honey. Mr. Gallup was aware of the fact, that the combs must be filled with brood and not honey for profit, for he says on page 6, Vol. IV., AMERICAN BEE JOURNAL: "We must never allow the bees to get in advance of the queen, for if we do, the prosperity of the colony is checked at once; that is if the bees are allowed to fill the combs with honey in the spring before the queen has filled them with brood, the colony will be an unprofitable one."

We cannot get honey without bees, 1,000 square inches of comb as given above, as the right size of the brood-nest, will give (exclusive of pollen) 45,000 worker bees every 21 days, and a queen that is good enough to be kept, will keep these combs full of brood. If you have on boxes with such a force of bees as that in July and August; but give the same queen but 5,000 to 10,000 bees, and these old ones, they will crowd her down so as to be unprofitable every time.

Then, again, the boxes should be managed so that in the fore part of the harvest the bees are incited to greater activity by putting empty boxes where they will take possession of them the most readily, while towards the close, the box room should be reduced so as to have them finish the partly-filled boxes in preference to starting in new or empty ones. Thus we should strive in the fore part of the honey harvest to get them at work in as many boxes as we can, and at the latter part strive to make them finish all they have commenced to work in. Thus we have but few boxes that are part white and part dark honey, or but partly filled at the end of the season. Much more could be said on the subject, but this article is already too long. My next article will be a description of the hives I use.

Borodino, N. Y.

For the American Bee Journal.

Clethra Alnifolia, or Sweet Pepper.

BY A. PARSONS.

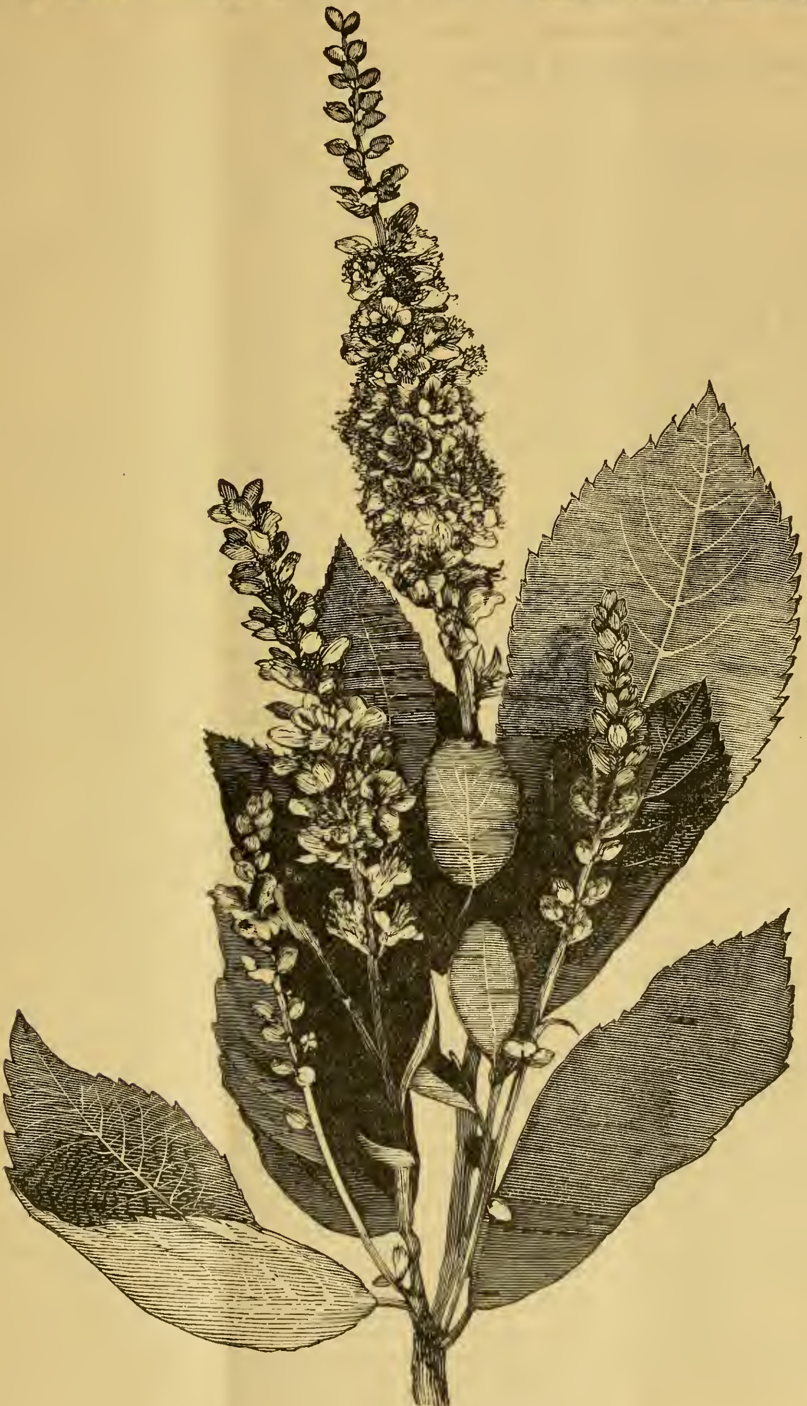
Here on the Atlantic coast, if bees winter well, and are strong swarming occurs in June, and again in August, when the sweet pepper bush comes into bloom. Our people and the school children call it honey dew, from its delightful odor; in fact, the plant is known here by no other name. I found by anlysis that both Gray and Wood give it the name of *Clethra Alnifolia*; but sweet pepper bush is much the sweeter name to me. I have a fancy for the common every day names, and for this reason prefer Wood's class book of botony to Gray's; he has more technical terms and I think Wood's much easier. I learned botony from "Wood's class book," and perhaps should not express my opinion in favor of it. I use Gray's large work as reference merely.

The sweet pepper grows wild here in the greatest abundance in the swamps, and wet places, and I never knew it to fail to bloom from any cause whatever. Dry seasons do not affect it, because its home is generally in wet places; and again no cold appears ever to harm it. The honey is about white, thick and of fine flavor.

I send you a picture of the *Clethra Alnifolia* which is a correct and beautiful likeness, bringing the dew of honey before one; also a glowing description of the same.

[This hardy flowering shrub is well illustrated by the excellent engraving on the opposite page which we have obtained from Mr. J. W. Manning, proprietor of the Reading, Mass., Nursery, of whom plants may be obtained. In Mr. M's catalogue we find the following description: "Its leaves are light green; flowers are pure white, in spikes 3 to 6 inches long. A group of this Clethra in bloom will perfume the air for 20 rods around; a handful will fill a room with its delightful fragrance. It blooms from July 1st to September; its cultivation is simple, growing to perfection where the lilac will succeed. It never fails to bloom after a hard winter.

"Its effect is impressive when grown in large masses, as produced by a dozen or more plants set in a group. It has never been so well shown to the public as in Central Park, New York."—ED.]



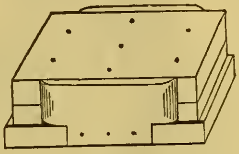
CLETHRA ALNIFOLIA, OR SWEET PEPPER.

For the American Bee Journal.

Block for Nailing Prize Boxes.

BY C. H. DIBBERN.

After a good deal of experimenting and some failure, I have hit upon a block for nailing, that I think is hard to beat. Take an inch board a sixteenth of an inch larger than the outside of a prize box; then take two pieces 1 inch thick and a sixteenth of an inch smaller than the inside of the box; then nail on the first in such a way that the grain of the wood of the middle piece will run crosswise to the two outside pieces. This is to keep it from warping. Now take two pieces of Russia iron, such as is used for stove pipe, about 4 in. long, by 3 in. wide; cutting 1 in. square out of the corners on one side. Nail the pieces to the block, so that the notched side shall be nailed to the largest piece of the block. Bend the iron slightly at the ends, so that the spring in the iron will hold the pieces to make the box, firmly in place, till nailed. This block is very neat and handy and not at all inconvenient to use. Sections, if careful, will be perfectly true, and are quickly made. I think a person can nail one-third more than without a block, and do it much better.



Milan, Ill.

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For the American Bee Journal.

Careful Handling of the Bees.

BY C. F. GREENING.

I see that I was elected one of the Vice Presidents of the North American Bee-Keepers' Association. Unavoidable circumstances excepted, I shall be present next October, and will gladly contribute my mite, towards making the Association a success. Never having met with a body of bee-keepers, I hope to learn, and shall eagerly look forward to the time when I can have an interchange of thought and ideas with the best bee-keepers of the United States.

UNTESTED QUEENS.

I am pleased to see the discussions in regard to "cheap queens" and wish to array myself *against* the dollar queen army. I have raised many queens from imported mothers, but cannot afford to raise them at that price, *and never will.* I have paid $15.00 for one queen in the fall, and the next year she paid me back over $50.00, in honey, swarms and queens. Since I bought her, I have 30 colonies from her. I get a new imported queen every year or so, to infuse new blood in my stock. The best always in the long run pays best. I claim to keep up to the highest standard of purity, size, color and prolificness. Amiability I do not strive for. For I claim if we use our pets well, they seldom injure us. But if we kill a few of the most amiable bees in the world, some of their friends are as certain to take it up, as we would if our friend were ruthlessly murdered—the most amiable of us would be very liable to seize the first weapon we could get hold of, and inflict summary punishment, if the offender were caught in the act.

HANDLE BEES WITH CARE.

Careful handling will cure nearly any cross bees, and careless handling make the most gentle ones cross. In handling my 50 colonies the past season, I have found it necessary to protect myself but once or twice. With a Bingham smoker in one hand, and coat off, I find no difficulty in transferring, dividing, doubling, or doing any needful work among them. One main secret I claim in handling bees, is for one person only to manipulate them. I am positive they get to know their keeper, as well as a horse or cow knows its master. I have lain for hours with my face not a foot from the entrance of a hive, watching the different work going on. A poor tired bee alights on my face to rest with his load after a long weary flight, do I brush it off? No! In a few moments it flies to the entrance, and is at home. Had I injured my friend, what then? It would have resented it, and so would the rest of the family. I never kill a bee when it is possible to avoid it. I once killed a queen that I wished to supersede, and carelessly left her on top of the hive. Shortly after, I passed the hive, when, lo and behold, the colony had found her, and there they were all piled on top of the hive, trying evidently to warm her back to life, or at least to remain with her corpse. They left house and home, willing to brave any danger, for the love of mother was uppermost. It was so human-like, that I never liked to kill a bee since. I put them back in the hive and in a few days gave them a capped queen-cell and in three days more they had a new queen, who distroyed the cells started in their endeavor to replace the dead queen. The past year has not been a good one for bee-keepers in this section of country. The very late spring, then a short hot spell, up to July, and drenching rains with scalding sun, used up the forage. Fall flowers did fairly, and gave stores for winter, but little surplus. On the whole, bee-keeping had little money in it for the season just ended.

Grand Meadow, Minn.

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For the American Bee Journal.

Improvement in Italian Bees.

BY DR. J. P. H. BROWN.

Can the Ligurian or Italian bees be improved? is a question of vital importance to every bee-keeper. We know that there is a universal law pervading every department of animated matter by which improvement on development can be wrought to a greater or less extent. The higher the organization the more perceptible the workings of the law. We have living illustrations of this in our breeds of cattle, sheep, hogs, poultry, dogs, etc. The highest type of illustraton is in the human family.

This law of susceptibility to improvement pervades even the vegetable kingdom. Our present fine varieties of potatoes are said to have originated from a wild, insignificant tuber discovered in South America. Our magnificent apples are said to have originated from the Siberian crab. The luscious peach from an unpalatable fruit in Asia. Our pears, plums, cherries, and in fact, all our fruits have only been brought to their high degree of perfection by this same law. We have abundant evidence, and reason to believe, that this power or capacity for improvement can be brought to operate in the development of many desirable qualities of the honey bee.

That the Italian bee, all things considered, is superior to our native black bee, is pretty generally admitted by all our best and most intelligent bee-keepers. We know it has, first, a better honey-gathering capacity; second, it is more easily handled; third, it defends its hive better from the larvæ of the bee-moth; fourth, it has more strength and power of wing; and fifth, it is more graceful and beautiful. These are all very desirable qualities, and admit of improvement. But this improvement can only be wrought, and the standard maintaind, by a rational course of selection and breeding.

We see much said in the JOURNAL, about the deterioration of the Italian stock. The chief trouble lies in the many queen breeders who have no natural qualifications for the business. Queen breeding requires, for its success, more care, precision, science, tact, industry, and promptness of execution, than the majority of bee-keepers possess. The result is defective bees and queens.

Another very serious injury to the improvement of our bees, has been the disreputable practice of some venders of bees, wares and "clap traps," of scattering broadcast imported queens of "doubtful reputation," thereby introducing every degree of mongrel blood. As an inducement to purchasers of such queens, the price asked for them is far below the actual cost of reliable first-class ones. The falacy that all the bees in Italy are pure stock soothes the consciences of the purchasers.

Good breeding stock can only be obtained by a process of most careful selections of both queens and drones. The most essential point is, *individuality* of character in our queens. The stronger this is, the more likelihood of the progeny being impressed with the qualities we desire to secure, and the less liable it is to breed back; for it should be borne in mind that the Italian bee is only a variety, and not a distinct breed or race, and is hence liable to revert toward the original.

No breed of anything can be much improved or developed without some standard of purity or attainment. And if we are to follow the advice of some of the bee-*savans* of very *recent birth* in regard to Italian purity we will soon find ourselves breeding out a distinct variety of the honey bee into no breed at all. We commence to drift into mongrel chaos the moment we lose sight of the markings of purity — the three abdominal bands — as recognized by the early importers of Italian queens into this country and into Germany.

Besides the careful selection of queens with due reference to the desirable qualities we wish to secure, it is absolutely necessary, in order to rear the best queens, for all the conditions upon which the development of queen-life depends to be as perfect as possible.

When these conditions are all right, we may expect good queens, but fine queens without pure drones to fertilize them will make but little progress toward improvement. However plausible and correct the Dzierzon theory of pathogenesis may be, it is always best if any doubt of it should exist, for the breeder of queens to avail himself of the doubt and only use the drones from tested queens for copulation. We have many nice theories, all very scientific and supported by high authority, that when thrown into the refining crucible of actual practice, give off a little base metal.

Some few conditions in queen breeding, such as psychical state of the bees, atmospheric, and possibly electric, are not always under the control of the breeder. There is no doubt but the shade of our queens is dependent in a great measure upon the state of these conditions. Until some apistical genius steps to the front with a more available and practical plan of fertilization in confinement than has yet been offered, queen-breeders will be compelled to rely on the old-fashioned process of copulation on the wing; and as long as this old-fogy plan exists, it is highly important to have the surroundings of your apiary as free from impure drones as possible.

With pure stock to breed from, and all the intelligence, science, tact and skill that can be brought to bear upon it, I have great hopes that the Italian bee of a few years hence will be far superior to anything we have now.

Augusta, Ga.

For the American Bee Journal.

Adulteration, Pure Italians, etc.

BY R. M. ARGO.

Mr. Editor: I am glad to notice that the Bee Journal has made vast improvements during the past year, and I hope it will continue to improve at the same rate during the present year. The reduced price should place it in the hands of every bee-keeper, even if he has only four or five colonies. To a bee-keeper of at least 25 colonies it is worth ten times its price.

ADULTERATION.

My honey all sold well this year. I sent off one barrel at 10 cents, but afterwards had cause to wish I had not done so, for the balance sold at home, readily, at from 12 to 18 cents for extracted, and 20 for comb. This is the first time for many years that I have no honey for sale at this time. I have generally kept back enough to have honey for sale from one season to another.

Our state has a good law to protect bee-keepers, passed by the legislature, April 10, 1878, (See page 232 American Bee Journal). All it lacks is enforcement, which I hope it will receive. This law may have something to do with the good sale of *pure honey* this season. If every state had such a law, not only on honey, but to protect every kind of syrups and sugars, and would see it enforced, we should have no more vile, poisonous stuff to compete with the sale of the pure article. But too many of our laws are dead letters on our statute books. If any one doubts this let them look at the law against murder in this state. I do not believe that any sugar except the New Orleans is safe to go into any one's stomach the year round at these times of poisonous adulteration by the city refiners. Our revolutionary fathers and mothers outlived us, but they were not accustomed to anything adulterated.

FERTILIZATION IN CONFINEMENT.

Mr. Hashbouck, on page 385, gives a new method on the above never tried by me. I hate to say another word on the subject, for fear, as he says, "It is a strange fact that bee men generally consider the thing so preposterous, that they will not try to see whether it can be done or not."

Now I do not want any one to be discouraged from trying all they can, from any thing I have written on the subject, but I have tried almost every conceivable way, and failed, and for myself I shall not bother about it any longer. But if the thing is possible, the man who discovers a safe and reliable method of controling the impregnation of the queen with a select drone will confer as great a benefit to bee-keepers as Langstroth did in the invention of movable frames, and should have a gold medal awarded him, also one dollar by every bee-keeper in the United States, even if there are fifty thousand of them.

ITALIANS VS. BLACK BEES.

James Heddon is all right at last on the "Italian Bees," page 436. A few years ago he wrote against the Italians, and in praise of the blacks and hybrids in such a way that I did not fully understand whether he was for blacks or hybrids.

In the fall of 1877, while removing some hybrids, as I do every fall, I sent him an extra prolific one, thinking that was his favorite bee, but in due time I received a postal from him stating that I had misunderstood his articte; that he was for a leather-color, pure Italian. Just the sort he describes in the above article. I do not differ with him a whit in this last article, for I have for several years contended that there was much difference in Italian bees. Some strains are no better, if as good as the blacks, while others are far superior; and I have invariably found this superior strain a shade darker (or rather leather-color), than the bright strain; but there are exceptions even to this rule, for one of my brightest colonies give 125 pounds, and is very full for winter. No other did as well in such a poor season as this. This rule also holds good with black bees. I knew, a few years ago, of an apiary of black bees, in a good location, to do nothing for 7 or eight years, while some others in the same neighborhood, but perhaps not as good a location, were doing well. I once had the same sort of Italians that so disgusted friend Heddon, but owing to the nature of that season I found them better than the blacks. I had then several black colonies in the same yard, and it was one of the poorest of seasons. No surplus at all; but the Italians had made enough to winter on, while the blacks had to be fed. The bright ones I now have are better than the bright ones I had 6 or 7 years ago, as I have been improving my bees for years.

While on this subject I will say a few more words on a

STANDARD OF PURITY FOR ITALIANS.

In my last article on that subject, I stated that it would be no easy task. I now say, that so far as the color of the queen is concerned, it will be impossible; for she will have to be judged by her progeny. Every bee-man of long experience knows that every black queen does not duplicate herself; or in other words, they are not all alike; some are larger than others; some are coal-black; some so light that it is hard to tell the difference between them and Italians. It is just so with Italians. The dark or different colors are no evidence of impurity. I have found in my experience that the comb they are hatched on has some influence on the color of the queen; as for instance, raise a batch of queens in old black comb, or at a time while the bees are not gathering honey, and they will be apt to build the queen cells from the old black comb. They are considerably darker than any raised from the same queens in new comb, or while the bees were gathering honey, for the bees would then build the cell of new wax, even if the comb was old and black. I prefer a bright leather-color queen of good size, with black on tip of tail, and good sound wings. Each of the workers to show three plain regular golden bands, long tapering abdomen and long wings; but I think that the more regular the golden bands, the better. I notice for years that the best imported Italians have the three bands finer and more regular than our home-bred ones.

The drones should be longer and yellow, with three wide bands, and as even and uniform as the workers. I make it a practice to destroy all drones that do not come up to the standard. I also remove all queens, no matter how bright and beautiful, if they are not prolific. I have had queens hatch out almost black, and yet turn yellow soon after impregnation. Last year I had one hatch almost as dark as a black queen, and in July she was among the very brightest queens in the apiary. I have also had some look very bright the day they came out of the cell, and yet turn several shades darker as they grew older.

I would advise all queen raisers to breed from their purest and most prolific queens, whose progeny are the best honey gatherers, and to use new comb to start the cells on.

For the American Bee Journal.

Glucose—Imported Queens, &c.

BY THE REV. A. SALISBURY.

The war having opened, I hope the JOURNAL will continue to throw "shot and shell" into the ranks of the enemy, until glucose will every where, be sold only by its proper name.

IMPORTED QUEENS.

There is no doubt but that the last National Convention, did a good thing when it gave its influence against a farther and promiscious importation of Italian queens.

We now have the Italian bee in all its markings of purity, and good qualities. Americans, without doubt, will make a greater effort to improve these good qualities than almost any other people. Prices are so low that no importer can afford to discard worthless imported queens. It is also true that queen breeders will be compelled for a while to breed considerably from imported mothers to meet the demand.

PROLIFIC QUEENS.

I feel somewhat inclined to advance an idea slightly in conflict with the opinions or many good men. Are dark colored queens most prolific? From some cause they seem to have gained the preference. Why should it be? Perfection is the true type by which we judge. Fecundity, bright color, in an

Italian queen, if pure, is a mark of perfection, for the simple reason that good nursing, plenty of food and heat, develop the brightest queens. So the bright color seems to be a mark of perfection.

CYPRIAN BEES.

If Cyprians are better than Italians, let us have them; if not discard them at once, as they will adulterate our fine Italians. I had 2 last season, that when tested, proved to be worthless.

Camargo, Ill.

For the American Bee Journal.

Shade for Hives—Wintering, &c.

BY J. H. MURDOCK.

I had 51 colonies last spring; took 1,500 lbs. of comb honey, 100 lbs. of extracted and 15 lbs. of wax from them, besides 18 colonies of increase. These I have now put up in boxes packed in shavings, for the winter (a model of which I have sent you,) all have plenty of stores, and I feel sure they will come out strong in the spring.

I see that a correspondent, says that bees need no shade. It may be that with the chaff hive, he does not need any, but with a single-walled hive, they need shade, if you wish to keep down the swarming fever. I have used a cloth shade for 3 or 4 years. I take 1½ yards of cotton cloth a yard wide, hem the ends, putting on some loops made of number 20 annealed wire on each corner, large enough to go over the ends of stakes, get some strips of waste lumber 1 or 1⅛ inches wide, cut them into strips about 4 feet long, sharpen one end, and drive 4 of them into the ground around the hive to hold the cloth and keep the sun from the hive from 9:30 a.m. till 4 p.m. I have tried grape vine shade, and trees, but like the cloth best. These shades will cost about 10 cents each and will last 5 years. I take them in before it rains, and in cloudy weather.

WINTER QUARTERS.

To prepare a hive for winter, I bore a 1¼ inch hole in the center of the back end of the hive, 3 inches from bottom, take off the cap and boxes, and place over the frames a quilt made thus: Take 4 strips 1x1½ inches and make a frame the same size of the hive, 1 inch high, putting 2 or 3 strips ½ inch square through the center of the frame to cross the frames in the hive, to let the bees run under them; fasten these up even with the top of the frame; put on two thickness of cotton cloth; bringing it over the edge of frame, tacking it all around; put this on the frames, and the hive is ready for the box.

The box for winter quarters is made thus: Have the sides, bottom, top, front and back made independent of each other. The front is 6 inches higher than the back, and the sides slant to fit. This box is made of rough lumber, except the cover or roof, which is planed on top and the cracks covered with planed lath and painted. The cover is 8 inches long and 6 inches wider than the top of the box. The tube is 1¼ inches in diameter with a ⅞ hole and 6 inches long. The alighting board is made of a 2x4 and cut 6 inches long; run this crossways, to give the board a pitch and it will keep dry. Drive 2 nails without heads, half way into the thick part; make 2 holes in the box under the tube to correspond with the nails, so that it can be placed on any box. These should be painted different colors, to prevent the queen or bees from mistaking their hives.

I get shavings from the planing mill which lie closer together than those made by hand. Four cents will pay for a barrel of them, which will pack one hive. The space around the sides of the hive is 4 inches; and 6 inches above and below.

I have used them for 5 or 6 years and have never lost a colony in wintering. I have made 45 of such boxes this fall. They cost about $1.00 each, and will last, 10 years.

Dexter, Mich.

[The model is placed in our Museum, and we confidently await the result of the present severe winter.—Ed.]

For the American Bee Journal.

Imported Italian Queens.

BY AARON BENEDICT.

By my experience as well as information received from Italians and those who have visited Italy, I conclude that nearly all the bees there are crossed with the blacks. In some districts they may be lighter. Selecting such to breed from would save years of labor in improving the race. I would not breed from an imported queen, unless she was far above the average of those now sent to this country.

My opinion of the markings of pure-bred Italians is that a queen should produce workers all having three distinct yellow bands, and duplicate herself.

If we rear queens from one that produce all shades from black to three-banded workers—should the bees take larva that would have been a black worker, to rear a queen from, it will be black; if they take larvæ that would have produced a three-banded worker, then the queen will be light-colored.

Bennington, Ohio.

For the American Bee Journal.

Can Honey be used to Cure Consumption?

BY L. L. LANGSTROTH.

In the spring of 1861, my wife, being quite feeble, went East for recuperation. Instead of improving, her health rapidly failed. When she started for Oxford, in the fall, some of her friends feared that she might never reach there alive. She was very much emaciated, had constant night-sweats, a distressing cough, and the usual symptoms of a speedy decline. Anxiously studying what remedies could be used with any hope of success, the following considerations determined me to make a trial of the curative powers of pure honey :

1. I had noticed that from the time of Hippocrates, who wrote more than 2,000 years ago, even down to modern writers, there was a strong and continuous testimony in favor of the virtues of honey in curing or alleviating all diseases of the breathing organs. Charles Butler, a very learned and accurate writer, in his "History of Bees," published in 1634, asserts "that it breedeth good blood, stirreth up natural heat, and prolongeth life ;" referring largely to the ancients for his proofs.

Now, what logicians call *communis consensus humani generis*, "the common agreement of the human race," on any matter fairly within the range of their observation, has always been considered as coming very near to demonstration itself.

2. About this time I received from the late Dr. P. J. Kirtland, of Cleveland, Ohio—the mention of whose name will inspire in a wide circle a deep feeling of reverential consideration—a letter informing me that one of his pupils had discovered that honey mixed with some other ingredients (honey, however, being the main thing), was a much better remedy in consumptive cases than cod-liver oil.

3. Nearly at the same time I received a printed statement of the various exhibits of bees, hives, honey, &c., made at the World's Fair at London. The name of the Countess Olga, of Russia, was given as exhibiting some linden or basswood honey—"oleaginous honey," so called—with the statement that this kind of honey is in some parts of Russia and Persia in higher repute for curing consumption than cod-liver oil. Linden honey having a decided balsamic odor, as well as an oily nature, may possess some peculiar curative virtues.

4. The bee is almost the only insect known to possess animal heat. To survive the winter, it must live in a colony state ; for in no other way can it generate and preserve the requisite temperature. This heat, of course, comes from its food. To suppose that the Creator has not made this food specially heat-producing, would be like supposing that a good engineer who wants to get up most economically a given amount of steam, would prefer to use soggy wood or slaty coal. We need hardly say, therefore, that chemistry confirms the old belief that honey is a specially heat-producing food.

5. Consumption is derived from the Latin word *consumere*, to waste, to burn up. The system of a consumptive person is in such a diseased state, that it fails to obtain from the food taken, sufficient nutriment and heat. It seeks, therefore, to make up the deficiency by preying upon the fatty tissues. When the body becomes so emaciated that this can no longer be done, the patient dies ; just as the fire goes out when the fuel is all consumed. To prevent the diseased system from thus consuming itself, physicians have recommended cod-liver oil and other heat-producing substances. But if honey "breedeth good blood and greatly stirreth up animal heat," may it not prove one of the most potent and pleasant remedies for consumption ? A very aged man once being asked by Alexander how he had secured such a vigorous old age, replied : "By honey within and oil without"—that is by eating honey and anointing himself with oil.

Having duly weighed all the above considerations, I gained the consent of my wife to make a faithful trial of honey. It occurred to me that its efficacy could be much better tested by using it in *small quantities and at very frequent intervals*, than in any other way. If one wishes to keep up a uniform temperature in a room, by the use of a given amount of fuel, it cannot be done by using a large amount at once, with all the dampers open ; but by gaining complete control over the combustion, so that the heat can be regularly supplied. This idea of small but oft-repeated doses is new, I think, and very important. If we should "eat honey because it is good," we should also, on the same good authority, "eat not too much," lest its too free use be followed by nausea and loathing. Acting upon my suggestions, Mrs. Langstroth took a teaspoonful of pure honey, out of the comb, at least every hour when she was not asleep. She had not taken it long before it was evidently helping her. Her worst symptoms began gradually to disappear, and in about a year, she had regained her usual weight. Although she did not continue to use it as frequently as at first, at no time, if she entirely left it off, did the bad symptoms fail to return. This confirmed us in the belief that the honey had been the chief agent in her improved health.

Very far be it from me, to presumptuously assert, that I have found a panacea for consumption, although in Mrs. L.'s case, it proved to be so highly efficacious. I believe that by its use Mrs. L., who had lost her mother and a sister from this disease, was able for more than ten years to ward it off. She died at last from a different disease, having enjoyed before her fatal illness better health than for some years. Taking into account the above train of facts and reasonings, I hope that any of my readers who are threatened with consumption, will give pure honey a faithful trial. If procured in the comb it should be *slowly* heated until the wax is all melted. When cool this may be removed like a cake of cold grease, and will be useful for many purposes. If honey is found to disagree with any one, it should be heated almost to the boiling point. Milk taken with honey often makes it more wholesome; and honey and cream would doubtless be more nutritious than honey alone. Some may prefer to follow the practice of the old man—both using honey freely, and anointing the body with pure olive oil.

Oxford, O., January, 1879.

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For the American Bee Journal.

Dealers in Apiarian Supplies.

BY JAMES HEDDON.

This branch of our pursuit has had, and is still having a potent influence upon the success or failure of every honey producer in the world. No one can fail to see that the great law of specialism is as advantageous in the manufacture of our tools as of those of the farmer, or of any other class.

A good reason for specialty in the manufacture of our supplies, is that as soon as our bees are safely through the trials of the cold season, we are busy enough without any supply making. *Before* we know how many and how well our bees are coming through, is a poor time to put capital and labor into fixtures that we may not want to use, and are almost sure to soon be left behind as unworthy of use, being superseded by those much better.

Producers have been, and still are too radical in regard to the usefulness and advantages of apiarian supplies. Particularly is this the case with those of less experience. While the manufacturers of a few of the useful and practical implements have blessed our pursuit, no class has done more to damage bee-keepers at large, than apiarian supply dealers.

If to sell us inferior hives and tools, that soon had to be thrown away, was all the damage, we could easily forgive and forget; but this is not a tithe of the loss we must suffer. The deception used in regard to the fortunes to be made at apiculture, will ruin many beginners, and severely test the strength of the veterans.

Some of these supply dealers, seeing a chance to make their patrons pay for the extensive advertising required by a large business, now publish their circulars monthly, and call them periodicals "devoted to the interests of honey producers." In them are puffed fixtures enough to cost a small fortune, and clog the successful working of any apiary.

To cap the climax, the principal one of these supply dealers has now nearly ruined our foreign trade in honey, which market seems to be our only future hope. Of course he knows enough of human nature to see that to tell bee-keepers at large that glucose is a fine thing to feed to bees (only to rear brood), and is also a choice material to mix with honey as an article of diet (to be labeled "glucose and honey," of course), is to indirectly encourage fraud and consequent ruin to our pursuit! I am thankful that this man is fast coming into light, where we can all see him as he is, and lessen his power for harm.

Now let us see if we can come to an understanding of what is honest and just supply dealing. I will give you my ideas in part: 1. The dealer should give some public guarantee that he is responsible, and good for all money sent to him. 2. He should rigidly adhere to the "cash with the order" system, to enable him to deal on small margins, and tempt no man to dishonesty. 3. He should adopt for his business motto "justice," instead of "charity," and do business like an honest man, upon business principles, never playing "baby" to cover up wrong committed, or sins he intends to commit. He should be wise enough to know that the religious dodge is too old to catch business men. Bradstreet, and other commercial reporters, say nothing about the church a business man belongs to, nor the political ticket he votes. Neither do the men who are the back-bone of our country care whether one's children have "blue eyes" or gray—either are good enough.

The publications upon bee-culture are surely apiarian supplies. These, like all other supplies, are good or bad for us, according to the way they are conducted. After thinking the matter over and over again, I fully believe that had the American Bee Journal remained the only bee publication in America, honey would to-day command forty per cent. more, or nearly double the price it now does! Besides all that, thousands of dollars would have been saved that bee-keepers have paid out for worthless supplies.

I am taking but one bee-paper (the American Bee Journal) at present, and I do not see that I am losing anything by this change, and I am surely saving the subscription price, and the trouble of wading through a mine of twaddle, "Homes," A B C's, &c., to get at perhaps one or two valuable hints, which are sure to be found in the Journal. No discovery of any value will miss the pages of that paper. I conceive that one paper is all we can afford these times. Besides, I believe that we are actually *better off* with this one, than with all the others. I have made my choice, but shall change whenever I see a better paper than the American Bee Journal. I am glad that this paper fathers no supply, but merely assists in the distribution of all that it considers worthy.

Now, Mr. Editor, I want to congratulate you upon the able manner in which you have conducted the Bee Journal since it came into your hands. I conceive that you have worked for my interest, as well as for your own, and I will assist you all I can. I hope you will reject any articles or parts thereof (not changing the meaning) that I may offer for publication. He who cannot bear criticism is a bigot. Before closing, I wish to say a word about

PATENTS.

We will not stop to discuss the wisdom of this system of granting exclusive rights to inventors as a stimulus to progression. A majority of the people of the United States have decided to do it. They have instructed their officers, or representative servants, to hold out this inducement and charge for it. The patentee invents, accepts the bargain, pays over his money and gets his right. Now, I believe that the man who knowingly uses his inventions, without paying for the same, is guilty of theft, and he who openly advises all to take no notice of any one's rights, is not only a thief on a large scale, but guilty of treason. These are strong terms, but they exactly express my opinion upon the subject.

I have always enjoyed the pleasure of thinking my own thoughts, and the real rhapsody of expressing them, and I always expect to, as "the world moves" in the right direction.

When Mr. Otis called upon me with the Langstroth hive, and explained its advantages, he blessed me hundreds of dollars' worth. A patent was the cause of his coming, and he charged $10. I learn that the Bingham patent on smokers has scared the "smoker I prefer" out of the market. If so, it is a fine illustration of a patent coming to the rescue of bee-keepers.

Let us act like citizens of a republic, living under the best and most liberal government in the world. If we have a law that we consider wrong, let us put all our efforts at repealing said law. While it remains in force, and all decent men are respecting it, let us be law-abiding citizens too.

I own no patent, nor interest in any, but I am not a *revolutionist* upon this question.

Dowagiac, Mich., Jan. 10, 1879.

For the American Bee Journal.

Marketing Honey.

BY DR. C. C. MILLER.

Having over 5,000 pounds of honey of this year's crop to dispose of, I was obliged to find some other than a home market for it, and the prospect of still larger crops made me interested in everything that pertains to the matter of marketing. I therefore, in the month of November, made a careful tour of all the commission houses in Chicago to which honey is shipped by the raisers, and learned what I could. As a general rule, the commission men know very little about honey, but by looking at their consignments and asking some questions, I got some hints of value. I found scarcely any packages but what had honey leaking, and I doubt not in many cases the consignors thought they had sent them with great care and in fine condition. Some were packed in cases of rough boards of not very accurate, or rather *very inaccurate* dimensions, and this hurt the sale, although the sections were quite nice, but I suppose a difference of a quarter of a cent a pound would have made a difference of at least a cent a pound on the price of honey. The general neatness of everything about the package makes its impression on the mind of the purchaser. Nearly all the packages were too heavy. As a special example, at one place where I happened to be well acquainted with the commission merchant (and I know him to be a straight man), I saw a consignment of honey all daubed and leaking, and the merchant said to me, "There is a consignment that I am satisfied was sent by a careful man. I know it partly from his letter, which is carefully written, and the weight of every little box is set down in the letter in a very careful manner. But you see what condition it is in. When honey comes to us leaking and running over the floor, we must hurry up the sale and sell for whatever we can get. If our customers write to us beforehand, we advise them not to send to us, for we would rather not handle honey, and I don't believe it ought to be mixed up with other things." The packages in question were heavy boxes, weighing perhaps 100 lbs., with handles projecting at each end like the handles of a wheelbarrow. By means of these handles the box *could* be carried with great care, without cracking a single comb, and no doubt it was delivered to the railroad in perfect order. But when it came to be taken out of the car, either to be transferred to another car or to be delivered at its final destination, the railroad hands would know nothing of the contents, and it would receive the same rough handling as boxes of other goods. Suppose it is marked "Glass; with care," it is seldom that a railroad hand stops to look at the marks on a box, and even if he should feel inclined to do so, he can see nothing of it in the back end of a dark car, and there are not two men to pick it up carefully by the handles, but one man pulls it out of its place and tumbles it over and over. Besides it is much easier to handle carefully a light package than a heavy one. Try the experiment with a box weighing 30 or 40 lbs., and one weighing 60 or 100 lbs. Pick up each, carry it a few steps and set it down again. The light one you can set down lightly, without any trouble; but no matter how careful you are, you will set down the heavy one with more or less of a thump. There remains more to be said.

Marengo, Ill., Dec. 12, 1878.

For the American Bee Journal.

Sundry Items of Interest.

BY J. E. MOORE.

The past season has been a peculiar one with us in some respects, the winter being favorable, also an early spring. Our bees were in good condition, and we commenced giving rye meal the 8th of March. The bees gathered some natural pollen, the latter part of the month but did not wholly abandon the artificial, until the 11th of April.

April 27, hives were so full of bees as to need more combs, and fruit trees were budded very full, promising a large yield, but frost and cold east winds blasted our hopes, as I never saw so little honey gathered between the 1st of May and 10th of June. We kept them moving right along however by feeding. May 20th we had a terrific storm of rain and wind, lasting about 30 minutes. The hive covers were lifted like feathers by the winds, breaking them on hives against which they fell,; for a time it seemed as though our 2 years' work would take to itself wings and fly away. Mr. Seaver and myself were on the jump setting hives on the ground and putting on the covers. Although the hives inside and many of the combs were very wet, we did not lose a colony. Some that fared the worst gave a fair quantity of surplus honey, while others seemed to only hold their own through the season.

From 5th to 8th of June it was cold, then ranging from 50 to 52° at 12 m., with northeast winds and frosty nights. Four such days in succession in June, is enough to give the most enthusiastic apiarist the blues, but when I passed along in front of hives and saw bees clustered outside, although they had 12 combs and it was so cold, somehow the step would quicken and the eye snap. It moderated considerably by the 10th, and the 12th was the first good honey day on clover, which yielded a good crop. Basswood failed and there being scarcely any buckwheat, clover was our sole dependence for surplus honey. Following is the record of hive yielding most honey:

Hive No. 79. April 27, gave 3 empty combs, have sealed drone brood. May 7, removed 2 combs of brood and bees, to start nuclei; gave in place 2 empty combs. June 10, gave 1 frame of foundation, and 1 comb of honey; on 13th removed 6 combs of brood and bees to make colony, gave in place 2 frames of foundation, also 1 case of side boxes; 17th gave another side and 1 top case of boxes (side cases hold 12 and top case 15 sections 5x6). July 5, removed 39 boxes of honey—gave 39 boxes. Aug. 10, removed 37 boxes of honey, gave 25 boxes. Sept. 3, removed 27 boxes of honey. Total 103 boxes honey weighing 208 lbs. We commenced season with 62 colonies, increased to 114. Surplus box honey 4,300 lbs.; extracted, 400. lbs.

NATIONAL CONVENTION.

I was very much interested in the papers read at the convention, particularly the one by Prof. Hasbrouck, on "Fertilization in Confinement." Although as yet I can but express my doubts that it will be of any practical utility to queen-breeders, still it shows advancement toward the desired end.

In JOURNAL of November I notice W. Emerick's statement that a wingless queen commenced laying, after placing drones in the hive from another colony. I have had such queens commence laying without being to that trouble, although I never had any workers hatch from eggs laid by such queens. Query: Has Mr. Emerick?

STANDARD ITALIAN QUEENS.

There has been a good deal written on this subject during the past year, and now are we any nearer together in our conclusions as to what constitutes the "standard of excellence" in Italian queens? If I should order a queen each from a dozen different breeders, requesting them to send what they considered the "standard of excellence," what a variety there would be as to color, markings and size. Now, although there might be no two of the twelve exactly alike, still they might all be pure queens. Upon testing them, however, it is highly probable I should find a marked difference in the color of their worker progeny. Some would throw a very light color, others fair color, while some would be dark. As the profit of the worker bee is in the honey they gather, the one that gathers the most (be they light or dark-colored) is the bee for the producer of honey. Formerly I was altogether in favor of light-colored workers. W. S. Barclay, of Beaver, Pa., was, I believe, the first person who spoke to me advocating a dark worker. I did not give the matter much thought, however, until I read Ch. Dadant's observations of Italian bees in Italy. Some time after this I ordered an imported queen for dark-colored workers, and soon lost a good deal of my partiality for light-colored workers. Still I bred both long enough to satisfy myself which was the most profitable bee for me as a honey producer. My experience would lead me to choose the dark-colored worker every time. I saw a queen and workers at W. S. Barclay's apiary, bred from the first Parsons importation. I have had several from Mr. Langstroth, also from Mahin, Quinby, Tupper and Dadant. If I remember correctly, the Parsons bee was not as light as the Langstroth, or dark as the Dadant bee.

ADULTERATION OF SWEETS.

I was present at the Convention of the North American Bee-Keepers' Society, held in Pittsburgh, Pa., November, 1874. H. A. King, of New York, had a sample of glucose on exhibition, and read a paper upon the adulteration of honey (see vol. 10, page 278, AMERICAN BEE JOURNAL), warning bee-keepers of its deleterious effect in the sale of extracted honey.

I give the following extracts from New York papers to show the magnitude this nefarious business of adulteration is assuming:

"It is stated that a refinery at Greenpoint is largely engaged in the manufacture of glucose, which enters into both refined sugars and syrups. It is claimed that syrups frequently contain as much as 20 per cent. of glucose, which may be detected by a metalic taste in the mouth. Strained honey, it is said, is also heavily adulterated with glucose, and special agents reported that a large exportation by a New York firm has been condemned in England on account of adulteration. Grape sugnr or glucose is the chief ingredient used in the process of adulteration. In this jar is a sample of C sugar, made and sold in the market, which contains, by exact analysis, 13 per cent. of glucose. The analyses are continued daily, and no sample of refined sugars yet assayed has been found to be unadulterated.

"The persons conducting the investigations have received the hearty co-operation of the Board of Health.

"In regard to the returning of sugars to refiners, I know that in several instances within the past two weeks, lots of over 250 barrels each have been returned to refiners in this city, solely upon the ground of adulteration, and that complaints of a similar character are a matter of frequent, if not daily occurrence."—*N. Y. Tribune.*

In a subsequent issue of same paper there is a report of an interview between a sugar refiner and reporter, from which I give a short extract:

"*Reporter.*—Do you know anything in regard to the use of glucose or acids by other refiners?

"*Refiner.*—Corn glucose is manufactured as an article of commerce, and is entirely harmless and wholesome, and we think that a business which openly produces a syrup made by combining corn glucose with syrup of refineries is entirely legitimate."

Why the refiner considers it entirely *harmless* and *wholesome* may possibly be inferred from the following extract from the New York *Observer:*

"It is said that the use of glucose and other materials nets the refiners about one-half per cent. per pound, or $1.25 per barrel. Take a refinery that turns out 3,000 barrels per day, and the net profit per year from the adulteration alone will amount to over $1,250,000. An investigation is now in progress by the special treasury agents, and it is reported that they have made important discoveries, and secured the most convincing proof of the adulterations. They will complete their report in a short time, when it will be forwarded to Secretary Sherman."

Now, Mr. Editor, I don't think that one out of a hundred of the consumers of honey, sugar, syrups or candies, knows anything about glucose, or that there is such an article manufactured. I had one of the petitions for signers, and the first question invariably was, "*What is glucose?*"

Well, I trust the ball will be kept rolling until Congress shall pass such laws as will make all adulteraters of sweets amenable to the same.

I neglected to state in proper place, that I can fully endorse H. H. Flick's method of wintering bees. I have practiced same since 1870. (See vol. 8, page 178, also vol. 9, page 36, AMERICAN BEE JOURNAL.)

Byron, N. Y., Dec. 11, 1878.

For the American Bee Journal.

Business a Pleasure.

BY T. F. BINGHAM.

At Columbus I met with the Central Ohio Bee-Keepers' Association, composed of the principal bee-keepers of three counties, who meet once every month and compare ideas.

Their President, J. O. B. Renick, an active bee-keeper, living in the city, conducted the meeting with great credit to himself, and to the advantage of all present.

Mr. Reigel, the Secretary, read a lengthy and able report of the previous meeting, and an address showing the money side of bee-keeping. He regarded movable-comb hives, honey extractors, comb foundation. Bingham & Hetherington honey knives, and Bingham smokers, as modern, material and permanent inventions, marking the growth and development of a great enterprise. With these implements and such books and periodicals as are now so easily obtained, and the many zealous workers detailing their experiments and methods among an intelligent people, no careful observer could fail to realize that the honey interest was destined at no distant day to rank among the larger enterprises peculiar to a sugar-loving civilization.

From Columbus I went to Medina, the home of Novice, whose sirname is Root. The place has a thrifty look, having, like Chicago, been rebuilt since the great fire which occurred a few years before the Chicago fire, and destroyed the town. Mr. Root is one of the active business men of the place, and takes an active interest in many of the benevolent enterprises pertaining to temperance and religion. He is small of stature, and restless in his ways; he speaks promptly, and apparently without previous study. This feature is the peculiarity which has given *Gleanings* its peculiar influence. His "house apiary" and grape vines evince his method and system, while his new factory leads one to the belief that the honey interest is still in its infancy.

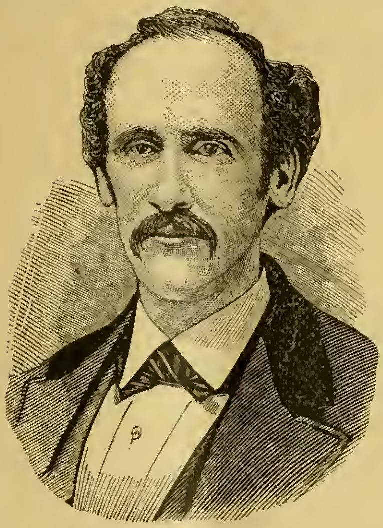
From Medina I went to Eastern New York. Saw L. C. Root, who is an enthusiastic talker, and conversant with the private history of his wife's father, the lamented M. Quinby, of whom he detailed many interesting incidents.

Mrs. M. Quinby constitutes a part of the family of Mr. Root. She is an elderly lady, in the enjoyment of fine activity and health, and is social and winning in her ways.

From Mr. Root's I went to Canajoharie, and saw J. H. Nellis and the paternal Nellises, The house and house-apiary stands upon a hill (no very uncommon feature in that part of New York) overlooking the Mohawk river, along whose banks run the New York and Erie Canal, and the great, restless, four-track New York Central Railroad. The view is one of great beauty and grandeur. The river, in its deep, precipitous banks, winds among the hills and is lost to view in a tiny ravine ten miles away. J. H. Nellis, in one particular, resembles Novice. He, too, has built a new brick factory, where bee-keepers' material is to be made, and where the new bee paper is to be printed. He, too, has a large steam engine to furnish power. He is a medium-sized young man, full of energy and health.

I next visited Sprout Brook and the Van Deusens. C. C. Van Deusen, the inventor of the Atmospheric Feeder and flat-bottom comb foundation, is a young man, with vigorous and interesting parents. The paternal Van Deusen is an ingenious and experienced watch-maker. The new foundation will be under his control, and it is not too much to say that it is in the best of hands, with water and steam power to aid in its manufacture. C. C. Van Deusen holds a valid patent on all the "tea-kettle" and other atmospheric feeders in use. I mention this that bee-keepers may know who should have the credit and the reward of this valuable invention. Now that he has produced the only absolutely perfect method of making foundation, rivaling in thinness and beauty the wonderful bees themselves, it will be readily seen that invention plays an important part in our favorite industry, and should be rewarded and encouraged as a material blessing, and a benefit to every honest and thrifty bee-keeper. After a day under the hospitable roof of the Van Deusens, C. C. took your correspondent to Cherry Valley, in the Van Deusen family carriage.

Here I met, for the first time, the most extensive bee-keeper in the United States, Capt. J. E. Hetherington. He is a tall, sunny-haired young man, with prominent and overhanging forehead, and pleasant and cordial address. He is a ready talker, and, like his brothers, impresses you with the sense of candor and frankness so essential to companionship. The day was stormy and cold, and your correspondent declined with regret an invitation to be shown about the premises. We talked over foundation of the new type, with and without the wire, and no fact can be better established than the success of the wire in the brood chamber. Not a card stretches, and not a larva is removed on account of the wire.



CAPT. J. E. HETHERINGTON.

I saw many samples of comb built up from comb foundation, and can testify to the fact that all of the combs I saw, which were built on thin, flat, septum foundation, had just such shaped bottoms as the bees make in natural combs. The pressing in of the honey into the cells, or the raising of the cells on the oppposite side, invariably produce the original and time-honored base.

The smoker question was freely talked over, and I had the pleasure of seeing the 8 Bingham smokers which had controlled 2,000 colonies of bees in the rapid work necessary in the management of so many. They bore the marks of hard use. Mr. H. said they were a necessity; they could not do without them and do the work daily required.

The new knife was also freely discussed. He said it was a great wonder and a grand improvement. His men all spoke of it in the highest praise, and would use no other when they could get one of them to use. He said we should have a large trade in knives and smokers as their excellence became known, and gave me an order for more of the large size smokers and new honey knives.

Seeing the near approach of the "wee sma' hours" and the rapid fall of snow, we left the pleasant village among the hills and its short but prized associations. C. C. and your correspondent returned to the Van Deusen mansion. I was shown the machine in which is made the thinnest and most beautiful foundation ever produced (ten square feet weighing only one pound); the bottoms of the cells are like tissue paper, while the walls are high and thin, apparently just aching to be drawn out.

The following day the elder Van Deusen kindly took me to the railroad, and I started for home after a delightful visit in which no incident or accident conspired to lessen the pleasure I found in visiting those I had long desired to see.

Did it ever occur to you, Mr. Editor, that altitude had anything to do with the production of honey? Certain it is, that the high portions of New York, California and the North-western States, all of which have a high altitude, produce the greatest amount and finest quality of honey found in our markets.

Abronia, Mich., January, 1879.

For the American Bee Journal.

Glucose, or Grape Sugar.

BY BUSY BEE.

There seems to be more said upon the subject of glucose, or grape sugar, at present, than upon any other article. Novice says, "It is even better than honey for feeding bees," and that it makes good cake, and he might as well have added that it would take the place of cane sugar, while Mr. Dadant says it is all vile trash, but he does not seem to possess Novice's virtue of "feeling friendly, even if he can't agree."

Now comes the question, Who shall we believe? That grape sugar must necessarily contain sulphuric acid, etc., I do not believe! And what is more, I believe it will answer for feeding bees, and if it is a first-class article, it will not injure them. I also believe that it is extensively used to feed something besides bees, and that in "military districts" it undoubtedly makes very fine honey. It could undoubtedly be profitably fed to bees, for "stimulating only," if it were not for one great reason.

Let me ask if all our bee-keepers are conscientious men? Do you suppose that you can offer bee-keepers glucose at 2 and 3 cents a pound, assure them that linden honey is improved by its addition, and then expect that all will resist the temptation of adulterating their cropt of honey? If glucose is used extensively for feeding bees, the market will be ruined, and the honey too. Keep on recommending grape sugar for "stimulating," and you will soon be surprised to see how many will acknowledge themselves "crazy," and you will be surprised to hear so many of our consumers pronounce their honey "crazy," too, whether labeled so or not. The "insane list" would undoubtedly find the members of "that *august* body" an uncongenial lot of fellows.

I suppose the writer of "The Coming War" uses oleomargarine in preference to butter, and also glucose honey in preference to the genuine article; it would not be at all surprising, for there is no accounting for what the people of "military districts" will do.

"Now, what are you going to do about it?" Congress should be petitioned and informed as to how extensively it (glucose) is used in adulteration. They should pass laws to the effect of punishing severely all persons found guilty of such adulteration, and a duty should be placed upon glucose or grape sugar, placing it at such prices as to make it less eagerly sought for.

Would not this make it more difficult for that "house" to get so much of that "*white* honey" of indifferent flavor? And would it not, to a great extent, stop the production of that "granulated honey" made by those "sinners of the wilderness?"

Eastern New York, Jan. 6, 1879.

C. S. Burt, Brecksville, O., remarks on the same subject:

I am very glad indeed to notice the position you have taken in regard to the use of glucose for feeding bees. It is bad enough to use the best of sugars when compelled to feed, but the use of glucose for surplus is a fraud not only on the bees but upon dealers, consumers and honest produceres as well; and the worst wish we have for those that do use it, is, that they be compelled to eat their own vile trash! If such goods have any merit whatever, let them be put on the market for just what they are, and sold on their own merits. It may not be quite the "pure juice of grape" but how would it sound to say, "Grape Sugar Syrup, or Liquid Extract of Glucose, from the Apiary of so and so—warranted not to granulate?" I would merely suggest, it is about time they were looking up a title for thier goods. It may be that the "last feather" is necessary to "break the camel's back," but it certainly looks as though both producers and consumers of honey in this country at least had been loaded with this kind of dead weight about long enough. That some legislation is necessary seems evident and if our National Convention can do anything to bring this about or in any way to remedy the existing evils, they will deserve the gratitude of all honest dealers, producers and consumers of honey.

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For the American Bee Journal.

Cleome as a Honey Plant.

BY W. L. PORTER.

I have been very much interested in reading the different articles on honey plants. It is a subject that every honey producer is interested in. I believe that every bee-keeper should look well to the growing of plants that will make a successive forage for his bees, from early spring to the late frosts in autumn. To determine the most valuable plants for this, and also whether it will pay to grow plants exclusively for their honey, is a subject which gives ample room for most valuable observation and experiments.

I would like to say a word in regard to cleome or the Rocky Mountain bee-plant.

I see it very often recommended and classed among the valuable honey plants, but as far as my experience goes, I have not proved it to be of any value. I have grown it for a number of years, and find it to give continuous bloom from June until killed by the frosts, and while it is usually swarming with wasps, flies and various other insects, honey bees are rarely seen on it. This summer I have observed it, particularly in Colorado, in different localities of the Rocky Mountains, and in no case did I see a bee at work on it.

In my experience it is a honey plant rather in theory than in practice. I have regained my health, and have located at Baldwin, Wis. Hope before very long to have the place swarming with busy bees.

Baldwin, Wis., Jan. 13, 1879.

Conventions.

Read before the Michigan State Convention.

Merits of Different Varieties of Bees.

BY FRANK BENTON.

Had means been at my command I would years ago, have been in the native lands of some of the exotic races and species of bees which I shall notice in this article, and then I would not, to-day, be obliged to present to you merely the views of our apiarian cousins in the Old World, and information derived from the accounts of travelers who are not bee-culturists, and therefore give very meager reports. These accounts, however, allowing a margin for their inaccuracies, still lead us to believe that in many parts of the East there are varieties and species of bees distinct from our own, and at the same time, more valuable than any bees we have yet cultivated.

THE GERMAN OR COMMON BEE.

This is our common black bee, with which all are familiar. In the early settlement of this country it was introduced from Europe. I merely mention this bee because it is with this and

THE ITALIAN RACE

that we must compare all foreign races. Of the Italians I need to say but little, for all bee-keepers up with the times recognize their superiority over our common black or brown bees. What a large part of the progress apiculture has made in the last 18 years is due to their introduction! Who can say but that equally great results will come from the introduction of some of the races more lately noticed? Relying upon the correctness, in the main, of the testimony I have been able to obtain concerning some Eastern races and species of bees, I firmly believe similar results would follow their introduction.

THE EGYPTIAN BEE.

Having experienced, on several occassions, the effect of the wrath exhibited by Egyptian bees, even when well treated, and which exceeded that shown by any hybrid Italian and black bees, I cannot recommend them in any way except that they are diligent workers and prolfic breeders; yet I do not think they equal in these respects our gentle Italians.

THE HEATH BEE.

This bee, found in the heaths or heathers of Germany, does not differ greatly from the common bee, except in its great disposition to swarm. A single colony has been known to increase in one season by natural swarming to twelve. On the heaths of Northern Germany where the management of these bees is best understood, by restraining their disposition to swarm, large returns of honey are secured.

CARNIOLAN BEES.

In their inclination to swarm these bees are only second to the Heath bees. Coming from Carniola, in the south-western part of Austria, near the Adriatic, they are distinguished for their gentleness and the ease with which they can be subdued at all times. They may be recommended especially to beginners or such as experience serious results from stings. In some provinces of Central Europe the honey harvest was very poor in 1875, and common and Italian bees failed to secure enough honey for winter, while pure and hybrid Carniolans gave quite a surplus, under the same conditions. Several eminent bee-keepers in Europe, who have bred these bees, say they excel the common bees in every respect.

HUNGARIAN BEE.

The bees among the mountains of Northern Hungary and those found in Banat, a Southern province, are probably the same; at any rate the descriptions are substantially the same. They are quite black, with somewhat longer bodies than our common bees—the abdomen rather clumsier, and are covered with light gray hair. The colonies have a greater inclination to swarm than have the common bees, the queens are more prolific, the bees are livelier in their work, and show themselves somewhat less susceptible to severe weather than the common bees, hence they have wintered well further north than Hungary. They are easily handled, and are very industrious. In 1875 they were next to the Carniolians, and ahead of the common and Italian bees, as honey gatherers in Central Europe. A bee-keeper who tried them first in 1862, said, in 1875: "This bee is more industrious and persevering in collecting honey than our native bees, and deserves the preference." His reason for only keeping them a few years was that he obtained still better races.

THE BEES OF DALMATIA.

This bee which comes from the Eastern shore of the Adratic, has a slim, very wasp-like body, which is a shining, deep black in color, and whose rings are about half covered with lightish yellow hairs. It is really a beautiful bee. When the bees are old and have worn off the hairy covering of their bodies in their diligent labors, their bodies present a shining, blue-black, steel-like color, and as they alight they resemble black wasps. Evenings, after completing their work for the day, these bees play at the entrances of their hives like flies, chasing each other about in sport. They are, when undisturbed, far gentler than our common bees, but if thoroughly aroused they are more revengeful. By the use of smoke they are easily kept under control, however, and Count Kolowrat says that he receives fewer stings from them than from his common bees, yet he opens the hives of Dalmatians at the most dangerous times. It has been remarked that the honey of the Dalmatians is very white and peculiarly aromatic. After cultivating this bee and closely observing it for years, a very intelligent European apiarist says that he unhesitatingly places it ahead of the Italians as a much more valuable race.

HERZEGOVINA,

a province of Turkey bordering on the Adriatic, and separated from Dalmatia by a high, broad range of mountains, has a sort of bees quite different and even superior to the Dalmatian bees; at least we have good testimony to that effect. This bee does not have the slim, wasp-like body of the Dalmatian, nor is it as black; it has, however, one other mark which distinguishes it from the Dalmatians; the first ring of the abdomen, when examined closely, is found to be yellowish and semi-transparent. These bees are, when properly managed, very mild in their behavior, are more industrious, the gathering qualities being decidedly better, and the queens are more prolific than their neighbors—the Dalmatian bees. Both the Dalmatian and Herzegovinian bées, having been developed in mountainous regions, are of strong flight, and go farther after honey than our own bees.

SMYRNIANS,

are another variety of bees which several apiarists in Europe, having tried, praise very highly. The editor of a European journal of apiculture having been presented a colony of Smyrnian bees in 1873, said in 1875, when comparing them with his other bees: "This colony works like a giant." These bees come from the region about Smyrna in Western Asia. Those colonies brought to Europe contained some bees that were entirely black and others having orange-yellow or redish bands, their bodies pointed, wasp-like, but strong. The queens have three orange-yellow bands, and are not as black on other portions of the body as the workers. In latitude 50° N., on a line with Newfoundland, Southern British America, and Vancouver's Island, these bees have distinguished themselves by the manner in which they have wintered, remaining free from disease when other colonies were affected. They fly earlier and later in the season, also earlier and later during chilly days, than do the common bees. They have likewise proven themselves very active, gentle, and the queens exceedingly prolific. They defend their hives from robber bees with great bravery, and quite as well when queenless as at other times. They are not inclined to start drone brood when they become queenless. The variation in color indicates that this is not a fixed race of bees. But the Smyrnians, where introduced had to make way for a still nobler race,

THE CYPRIAN BEES,

from the Mediterranean Island of Cyprus, so renowned in the poetry and history of ancient times. This race has been alluded to so often in our bee publications (see *Bee-Keepers' Magazine* for July, 1874, Sept. and Oct., 1875, Feb., Mar., Apr. and May, 1876; AMERICAN BEE JOURNAL for Sept. and Oct., '77, July, '78; that all one cares to ask is: "Are the good things said of them some years ago in Europe, fully substantiated by actual experience?" To this I reply emphatically, *Yes!* One colony of these bees was imported from Cyprus to Bohemia in 1866, but through mismanagement died the following winter. The same party obtained another colony from the Island in 1872, and two more in 1874. Descendants of these later importations have been obtained by many prominent apiarists in Central Europe. At the great Strasbourg Convention in 1875, a prize of $10. was given to Herrn Hilbert for his Cyprian bees; and not long since the Bohemian Bee-keepers' Association, composed of 800 members, bestowed upon Herrn Corl, as a recognition for his great services in the importation and acclimating of Cyprian bees, a diploma betokening the highest honors. Herr W. Honzejk, an intelligent teacher and bee culturist in Bohemia, after some years' experience with Cyprian bees, recently proposed a plan for their general distribution in Bohemia. He advises the Bohemian apiarian society to establish an apiary to be devoted to the rearing of Cyprian queens for members of the society, merely charging for each queen enough to fully cover expenses. Referring to the few who do not regard this race in a favorable light, he says: "These gentlemen, or others of like mental caliber, may yet, with us prizers of the Cyprian bee, say, 'Certainly this bee has a future.' Whoever does not believe this should consider the results obtained with this bee in various apiaries in our country, and then talk like a sensible, truth-loving man." Before Cyprus was annexed by Great Britain, Herr von Natzmer earnestly advised through the *Bienenzeitung* its annexation by Germany, in order that under the control of the government, the culture of the Cyprian bees in their purity might be carried on there. In almost every instance in Germany, where the Cyprian bee has been tried it is called "*eine hochedle Bienen-Rasse*," literally, "a high, noble bee-race." When, in the face of this mass of testimony, I find men of little or no experience with them, who sneeringly assert that it is all "a humbug," I am reminded of the obstinacy with which a few opposed the views concerning Italians, now entertained by nearly all the apiarists of the country.

BEES OF JAPAN.

From a report published by the Japanese minister of education the following items are gleaned: "In the province of Sinano there are two varieties—one grayish-yellow, the other having yellow spots. In the region of Hikigoie, a province of Latsuma, the bees are brown and very small. The bees of the province of Unschiu, are similar in form to those last mentioned; they are very tame, and bear the name *Kinbatsi* (gold-bee). In this province two other races are found: (the "wild honey-bee," and the "bear honey-bee"), whose wildness, it is said, make their cultivation very difficult."

NUMEROUS SPECIES

of Trigonæ, stingless bees inhabiting the East Indies, could be found, while investigating other bees there found. The "black bee of Africa," and the "bag-pipe bee" (*apis amalthea*), of the West Indies; the latter said "to furnish the sweetest and best-tasting honey," are other races or species about which positive information is lacking.

THE BEES OF CAUCASUS,

or Caucasian bees, according to Professor Boutelerow, a skillful Russian apiarist, combine the good qualities of the Nothern breeds with those of the Southern varieties. An effort is being made, to learn more about them.

APIS INDICA AND APIS DORSATA.

Apis indica is found in India, Ceylon, Malacca, Java, Borneo, Banca, Celebes, Timo, Floris and Sumatra. It is smaller and weaker than our common bees, and its honey is not as good as that of *Apis dorsata*, which is said to be very fine.

Apis dorsata is a native of India, Malacca, Borneo, Timor, Floris, Java, Sumatra and Ceylon. It is most abundant on the Island of Timor. This bee is about twice the size of our common bees, and could doubtless gather honey from red clover as well as from many other plants. The only man who has said that they were not suitable for domestication, is Rykens, who was paid a round sum by the Dutch government to import Italian and Cyprian bees to Java. Even supposing they do build their combs in a horizontal instead of a perpendicular manner, cannot Yankee ingenuity adapt hives to their habits ?

I would call the especial attention of all to article on *Apis dorsata*, which can be be found in the AMERICAN BEE JOURNAL, for December, 1877, January, February and December, 1878. The latter is by our honored master in bee culture, L. L. Langstroth. Mr. L., says: "Will our American bee-keepers raise a fund and obtain the services of some bee-keeper, not too old, strong, wise, and of indomitable energy, to test this matter ?" And again he says: "instead of so much theory and talk, let us get to practical work." Let the bee-keepers of Michigan sustain their reputation for progressiveness, by taking the initiatory step, and, if possible, the lead in the actual execution of this work !

APIS ZONATA

is a native of the Philippine and Celebes Islands. This is called a "beautiful and strong bee, quite black, except that the bases of the third and fourth segments are edged with a small white line." Chancellor Cori thought when he wrote about *Apis dorsata*, that it was exceeded in size by no other honey bee, but a later authority—one who has seen both *Apis dorsata* and *Apis zonata*, gives additional information which leads to the belief that *Apis zonata is the largest honey bee of the World !*

Detroit, Mich., Nov. 30, 1878.

Read before the Michigan State Convention.

Mustard as a Honey Plant.

BY FISK BANGS.

Bee-keeping has advanced to that degree of success, and bees have become so numerous throughout the country, that, it will soon become necessary for us, as bee-keepers, to look to something besides the pastures that nature has supplied.

The most important object to be attained in the selection of plants are those that secrete the best and most honey ; those that will not only secrete honey, but also, can be utilized in the feeding of stock ; thus, making the bees produce a profit from the nectar, and the cattle by laying on the fat.

In Vol. XIII., No. 6, page 188 of the AMERICAN BEE JOURNAL, we find the following: "Perhaps one of the best honey producing plants is tall Chinese mustard. It remains in bloom a very long time, seems to yield honey continuously ; is equally vigorous to resist drought, or wet, and flourishes in all soils. It may be sown any time from May 1st to the middle of June, the earlier the better. It will seed itself—its greatest drawback. Yet it is far less troublesome than the common mustard. It should be planted in drills one foot apart, for easy cultivation. An ounce will plant one rod by four."

To test its qualities and have no "perhaps" in the question, I planted two acres and a half of this "tall Chinese mustard," or what is generally known as black mustard. It was sown the first day of June, rather late in the season. The weather being dry it took longer for it to get a fair start, and when fairly under way, it was very irregular in growth. I wanted it for use by the middle of July and from that time on. But I missed my calculation and it did not come into bloom until the middle of August or just before the mass of buckwheat. It then bloomed until the setting in of cold weather. The first frosts of the season seem to have no effect upon it, and every morning it was covered with bees until noon, and then they would depart for other fields of labor. If sown about the middle of May, it will come into bloom the middle of July, and will last until buckwheat. Just the time when there is a cessation in the honey gathering and the bees are idle. As stated before, it should be sown in drills a foot or more apart for easy cultivation, for if sown broad-cast, it will be held in check by the weeds ; but, when once it gets fairly under way, weeds nor anything else can check it. It would be a good plant to sow for the extermination of weeds. It should be well cultivated in its earlier stages.

The honey produced by mustard, is of a bright golden yellow ; it is very mild and pleasant to the taste, not producing the strangling sensation as that of basswood, and is entirely different from that of white clover. Dr. Kedzie says "it is the best honey he ever tasted." That is the verdict of all who have tasted it. In the market, those customers who have once had some, invariably want more.

Now, granting that mustard is a grand honey producing plant, will it be safe for us to sow a plant that has such a reputation as mustard ? I answer this only from my own experience and observations. At the Agricultural College, for several years "tall Chinese mustard," has been sown for bees, in large beds, in a different place from that of former years. It seeded itself every fall and the following spring it would come up very thick, but as these plots were cultivated afterwards, for other plants, the mustard disappeared. It has never been troublesome there as a weed, though some persons talked about its being such a bad weed, when first sown. Their predictions proved untrue. The plant grows from 4 to 7 feet high, and it can be killed any time before it blossoms by mowing or plowing it under. It grows to such a height before it blooms, it would, in our opinion, be a good plant to sow the first year for the bees, and then as the plants come up the next year to plow them under for green manure. Besides the honey produced by the bees, the value derived in the shape of green manure and as a weed exterminator, there is a remuneration arising from the sale of the seed.

I only recommend it to the careful man, who will not find it a pest; but to the careless farmer or bee-keeper the simple word *beware* will suffice.

North Lansing, Mich., Nov. 30, 1878.

Read before the Michigan State Convention.

Comb Foundation.

BY J. H. NELLIS.

Comb foundation has had a short and rapid history in this country. Only three years ago the amount used in the United States was not as great as that appropriated now in certain limited districts. Judging from this, we may say foundation is a success. Like all new things, it has had its supporters and its enemies. Many tried it with a desire to succeed, but from want of knowledge of how to use it, failed in first attempts. The worst features of its early history are that manufacturers adulterated it, or with silly conception, expected to compel the bees to accept cells of unnatural size. The adulterated article sagged so as to become worthless, or was unnoticed by the bees. The queens objected to unnatural-sized cells, as though they were at a loss to know what their progeny would be, if they put eggs in them.

But these things are past; the cry is "onward and upward" in matters of invention and progress. The severe and long-continued hard times have made the price of honey so low that it cannot be classed among the luxuries, and the questions arise, "Can we produce honey in quantities?" Do methods and appliances exist that make it possible for us to produce honey at these prices, and yet support our families and lay by a competency against the time of old age?

I think that comb foundation is one of the key-stones in this arch of inquiry.

In the brood chamber it is useful in many ways. It supplies all worker comb, thus making the combs useful for breeding to the fullest extent. The combs are regular and therefore more rapidly handled and more useful, as they contain more available space for brood and honey. It saves the bees the time and material used in building natural comb, thus making in times of plenteous yield a large difference in the amount of honey obtained.

The worst complaints against its use in the brood chamber, have been its sagging. This is due to various causes: First, impure or adulterated wax; Secondly, exposure to severe heat and heavy clusters of bees; Thirdly, to the use of sheets too thin for the use of brood chambers. These evils are overcome by applying the remedies naturally suggested, and we are also glad to say that comb foundation with wire incorporated has been recently introduced that effectually defies all these obstacles. After a large experience, we decide that foundation for the brood chamber should contain from five to six square feet of surface to the pound. This weight is most profitable and successful, yet our time and space will not permit us to give our reasons for this conclusion in detail.

For fastening foundation in frames, white glue, kept in liquified state over a lamp, is largely used by bee-keepers in this section. This glue sets quickly and is reliable. We have nothing that suits us better than beeswax one part, rosin two parts, melted together, for putting starters in boxes. Take a veneer a little longer than the dish and crowd it in, so that the middle is just below the surface of the mixture, touch the starter on this veneer and at once set in its place. A little practice will demonstrate that the mixture must be of proper temperature, neither too hot nor too cold.

Canajoharie, N. Y.

Read before the Michigan State Convention.

The Grape Sugar Controversy.

BY PROF. R. C. KEDZIE.

Shall we feed grape sugar to bees? is one of the most important questions that now demand an answer from the apiarist. This question has been argued in the bee papers for some time. Some regard glucose as an excellent food for bees, free from all impurities, and much cheaper than cane sugar, while others consider it as very unsafe bee food, adulterated with chalk, sulphate of iron, etc., and more costly than cane sugar.

I see that one of the bee papers makes a distinction between grape sugar and glucose, calling the first a solid and the last a liquid. But this distinction is not a scientific one. Both forms are called glucose or grape sugar in all works of any authority that treat on the subject. The sugar of both has the same composition, and is made from the same materials. The only difference is that glucose syrup contains more water than glucose sugar. If the syrup is boiled down it forms solid glucose. Still some persons claim that solid glucose is not as sweet as the liquid, and does not contain as much sugar. But if liquid glucose contains more sugar, why doesn't it crystalize out? Judging from some of my recent experiences with grape sugar, I am not surprised at these statements. But we have in the laboratory a specimen of grape sugar, which, when made into a syrup with water, is fully as sweet as the glucose syrup of commerce. Probably the only reason why grape sugar is received with any favor at all is the fact that it is supposed to be cheaper than cane sugar. But is it in reality? Let us compare these sugars on the basis of the carbon they contain. There is enough hydrogen and oxygen in in either kind. A pound of Davenport glucose contains on an average about nine and three-fifths ounces of dry glucose, of which three and four-fifths ounces is carbon. A pound of granulated cane sugar has nearly sixteen ounces of sugar, of which six and three-fourths ounces is carbon. Therefore if grape sugar is worth four cents per pound, cane sugar is worth seven to eight cents per pound. But cane sugar costs ten cents per pound. Thus it appears there is from two to three cents a pound in favor of glucose—with sulphate of lime, free acid, a bitter, nauseous taste, and the risk of killing one's bees by feeding the stuffs—all thrown in for nothing. I have not taken into account the fact that cane sugar is two and one-half times as sweet as grape, and very much more nutritious. Truly it is short-sighted economy to feed grape sugar to bees.

In conclusion, it should be kept in mind that honey is a luxury, not a necessity. People do not buy it as meat and potatoes, to satisfy the cravings of hunger, but to gratify their love of sweets. As soon as glucose is fed to bees generally, will not people become suspicious, and rather than run the risk of being imposed upon by having honey mixed with glucose sold to them as "pure honey," purchase some other form of sweet that they think is not adulterated? Possibly I am mistaken, but in this matter I judge other people by myself.

Still further, when a prominent bee publication says: "A pure article of glucose is excellent food, and we should like it just as well as honey did it not lack the flavor of flowers," what is to prevent some persons, more ingenious than honest, from reasoning thus: "Glucose lacks flavor; well, I will add some honey or flavors to it, and sell it as honey. Who will be the wiser? and then—there's millions in it."

The argument that because honey contains grape sugar and is wholesome, therefore grape sugar of commerce is wholesome, amounts to nothing. The grape sugar elaborated in the slow and secret processes of nature, is not, necessarily, the same as that formed by the action of one of the strongest acids upon corn starch in a few hours. A free and fair discussion of this question can do no harm. If grape sugar is the excellent and healthful article its manufacturers would have us believe, its merits will become known and appreciated.

"Truth, crushed to earth, shall rise again; the eternal years of God are hers"—but grape sugar that is to "rise" must be far better than that for sale in the markets to-day.

* * *

Read before the Michigan State Convention.

Wintering Bees Successfully.

BY T. F. BINGHAM.

As the price of honey approaches the level of cane sugar, and the margin representing a net profit steadily narrows, the special bee-keeper is led to cast about him with a view to the possible future. In doing this, possible loss represents a probable factor. Memory fresh from the winters of 1871,'72 and '73, warns him of a risk not taken by the underwriters, and he contemplates with solicitude the loss of his apiary, representing his productive capital at a time when the margin under the most favorable circumstances is so small and wonders if such risk in such unpropitious times cannot be removed.

So great has been this solicitude that no specialist, living in regions which have been deciminated periodically, has failed to try some reasonable precaution.

Immediately after the great losses which seemed governed by no certain accident or modified by any special and certain course, I undertook the shipment of my apiary South to winter. The success was such as to justify a second shipment which was made the following winter. In these two shipments important data was obtained which seemed to indicate that such shipment might eventuate in practical success.

But the rapid and steady decline in the price of bees and honey, soon rendered such expensive methods absolutely impracticable. When this conclusion, data and experience were systematized, and a method adopted which I hoped might so reduce the expense and risk of wintering, as to render the production of honey remunerative, even should the price continue to decline. The plan was to double the size of the colony, and double the amount of combs and honey, and so arrange three colonies thus enlarged that their combined warmth would be the equivalent of one hive containing six colonies of bees.

The experiment was made on 120 colonies and sets of frames of honey united in pairs so as to represent 60 regularly organized colonies of bees. The experiment was a marked success. The number of bees reared early was simply immense. I visited various apiaries and enquired of every bee-keeper I saw, as to the condition, and volume of his bees. I became fully convinced that my 60 colonies outnumbered in individual bees, any 100 colonies in my immediate vicinity.

It will be borne in mind that I do not presume that the method pursued would remove the causes which decimated our apiaries in previous years. The experiment is given merely to show that methods sometimes modify the activity of unknown causes.

Believing that this plan of wintering is superior to any and all others for wintering bees in this climate, I will further describe the course pursued. The first thing to be done is to construct small houses, sufficiently large to enclose three ordinary hives, side by side, so as to allow a packing space of seven or eight inches on all sides except the top, which is to have a clear packing space above the frames of at least twelve inches in hight. To facilitate packing, handling and storing, the top, sides, bottom and ends, are made in separate parts. The bottom is placed as desired and the hives put on strips raised six inches on the front side and eight on the back, so as to incline the hives forward. The entrances are now provided with a conductor, which is to enable the bees to pass through the material used for packing the space between the hives and enclosure, the front and ends are set up around the hives. The corners are now secured with strips of hoop-iron, bent around each corner, and nailed with two small nails. The packing of fine hay or rowen, is now closely packed beneath the hives from the back, after which the back of the enclosure is put in and the corners secured as before with hoop iron. The top of the enclosure is now open ready to receive all the fine rowen or chaff, which can be packed into it by the most thorough methods. This done, put on the top or cover, which should have an inclination sufficient to turn the rain; and these three colonies may be regarded as needing no further care until the honey season opens.

As this plan, of necessity changes the location of many hives, the enquiry will be made as to the means employed to keep them in their new position. After all the brood is hatched and the honey season over, the bees have assumed their winter repose; no bee leaves the hive without flying before the entrance and locating it as do queens and young bees on their first flight.

For the benefit of those who cannot easily obtain chaff, I would say that I use fine short grass cut from my apiary, from time to time during the summer, to pack with, and believe it is superior to chaff and much better to handle; besides it may be used over and over, without much loss. This is of consequence when it is known that over two tons were used in preparing my 80 colonies for the present winter.

Abronia, Mich.

Read before the Michigan State Convention.

Bee-Keeping in Southern California.

BY M. S. BAKER.

In my opinion the natural resources of Southern California for the bee business are unequaled, except perhaps the market, for which we depend in a great measure upon sending it abroad. After supplying our own state and territories at the west, we must ship by rail overland to an eastern market, or by a voyage of five months to Europe. The price in shipping is much in favor of the European market. It costs one-half cent per pound from San Francisco to Liverpool and two and one-half cents to Chicago or New York. If we put our honey into any of your eastern markets, we must first pay a tariff of two cents a pound, so that the railroad really affords the east a protective tariff of two cents. Southern California is now shipping large quantities to commission merchants in Germany on an advance of 5¼ cents per pound. Some of the reasons why Southern California is unequaled for bee business is that we get a fine quality of honey and more of it for a given amount of labor and bees. We are to no expense and suffer no losses in wintering, and our bees increase much more rapidly than at the East or in any country I have ever heard of.

We have no rains during the honey-producing season to hinder the bees from storing honey, or the apairist from his business.

The honey-producing plants in the mountains afford a superior quality of honey, the principal of which are the white and ball sage; usually from this the honey is gathered in the month of June, and is our whitest honey. The bearberry and sumac afford a fine flavored light straw-colored honey, but is more inclined to granulate. The bees work on this through the month of July and the first half of August. This constitutes nearly the whole of the season for storing surplus honey. There are of course a large variety of other plants and shrubs that afford honey, among them are laurel, wild buckwheat, mountain mahogany, wild alfalfa, etc. Ordinarily our bees find flowers enough that afford honey for their living through the winter.

Our honey when extracted was about ⅛ sealed. We then passed it through a large sun evaporator, from which we removed a thick scum before drawing it into our reservoir, being ripe and thicker than all sealed honey. Our honey house is two stories high; we extract on our upper floor (which is nearly on a level with our apiary ground), pass the honey from the extractor through the strainers into the evaporator, from that to our tank in the lower story. For our uncapping we used hot knives, but are now assured that the Bingham and Hetherington patent knife does the work very nicely cold. If this be so, then Bingham has again laid the bee men under lasting obligations to him, for the Bingham smoker is of great value to the business.

We made no artificial swarms until after taking surplus honey, and prevented our bees from swarming all we could, by removing the queen cells, and when a swarm came out, leaving the parent hive weak, we returned them and took away all the queen cells, and still our bees nearly doubled from natural swarming.

We successfully made and used comb foundation, the result of which on the whole has been very satisfactory.

After we had done extracting we divided 75 colonies without reference to where we left the queen, taking half the brood and the bees and put them into a new box, placing the surplus box with what bees were in it on top; most of these were natural swarms.

If one half the effort was put forth here that is in Michigan, the results would be four-fold. A bee man in this county from one swarm this season extracted 1000 pounds of good honey, and made 14 colonies from the original one. The box was 12x18 inside, a common double Langstroth hive. The 1,000 pounds was all taken from the parent hive.

Some of your bee-men recommend extracting honey before it is sealed. In my opinion the farmer might just as well cut his grain before it is ripe, unless measures are taken to ripen it as soon as extracted. Honey equally as good as ours, extracted from unsealed combs and put into cans, often ferments and bursts the cans, while ours that went through the sun-evaporator is neither fermented nor granulated. San Francisco dealers are now complaining of unripe honey put into market. It costs but little more in any branch of business to produce a good article than a poor or inferior one. Southern California bee district is composed of four counties, Ventura, San Bernardino, Los Angeles, and San Diego.

The sun never shone on a more delightful climate than is afforded here. Not an excessive warm day did we experience at our apiary last season. We can make our calculations a week or month in advance, knowing no storms will interfere.

Santa Monica, Cal., Nov. 5, 1878.

Carson City, Mich., Convention.

The bee-keepers in Montcalm county and vicinity met on December 3, 1878, at Carson City, Mich. Present Thomas G. Newman, editor of the AMERICAN BEE JOURNAL of Chicago. Prof. A. J. Cook, of the Michigan State Agricultural College; O. J. Hetherington, of East Saginaw; and fifty or more bee-keepers—for the purpose of forming a Bee-Keepers' Association. Mr. H. M. Roop was called to the chair. By request of Mr. Roop, Mr. T. G. Newman acted as temporary Chairman.

The following were elected as temporary officers: Hiram M. Roop, President; Vice Presidents, John McWhorter, O. H. Townsend, Harvey Beach, David Eschilman and William Brown; Secretary, O. R. Goodno; Treasurer, Charles Cross.

The following were appointed a committee to draft a Constitution and By-Laws: O. R. Goodno, G. M. Barney and John J. McWhorter. After deliberation the Committee reported a Constitution and By-Laws, which were adopted. The temporary officers were unanimously elected to serve the Association for the coming year.

The Convention adjourned until 1:30 p.m.

AFTERNOON SESSION.

At 1:30 p.m. the Convention was called to order by Vice President McWhorter, (the President being absent.) Mr. T. G. Newman, in a speech, enumerated the advantages of such Associations. In the absence of a stenographer we are unable to reap the full benefit of many valuable suggestions.

O. R. Goodno was then called upon for a few remarks in regard to wind breaks, as a protection to an apiary. With one season's experience he looks upon it as being an equal protection to the bees, as the approach and entrance is to a good harbor for a vessel. He had saved the lives of many bees in bleak cold days in April and May, and equally so in fall weather.

President Roop then assumed the chair and remarks of interest were listened to from O. J. Hetherington and President Roop. We then had a lengthy though very interesting speech from Thomas G. Newman, followed by remarks from President Roop, E. J. Hetherington and James Robertson.

Wm. Brown gave us an account of his success in wintering in an out-door building, prepared expressly for wintering, built upon President Roop's plan.

David Eschilman remarked that he liked black bees, but never had any experience with Italians.

Prof. A. J. Cook then read a very valuable paper upon "Dollar Queens."

President Roop endorsed Prof. Cooks' paper, disapproving of the practice of rearing and selling dollar queens. Pres. Roop is an old queen breeder who has had many year's experience.

Adjourned to 7 p.m.

EVENING SESSION.

President in the chair. C. F. Wheeler gave some very valuable remarks in regard to honey-producing plants and the relation of insects to plants; classifying and enumerating each.

Prof. Cook read an anlysis from Prof. Kedzie, upon glucose.

Dennis Gardner then gave a detailed account of his success during the past season.

Pres. Roop gave an approximate estimate of his season's operation. He had in the spring of 1878, 130 colonies, and he has realized from the same in sale of bees and honey, $2,300, and now has in winter quarters 215 colonies in good condition.

Thomas G. Newman addressed the Convention upon the adulteration of syrups and sugars at length. Upon the motion of Prof. Cook, the following resolution was passed unanimously:

Resolved, That this Association protest against the use of Glucose for feeding bees.

Adjourned till Wednesday, at 10 a.m.

MORNING SESSION.

The President explained how the nectar was changed by the bees to honey.

Vice President McWhorter explained the condition of honey, as gathered.

D. Eschilman doubted that bees gathered any thing but honey and stated that it was not necessary to evaporate.

Pres. Roop replied, stating that unripe honey extracted, and sold, was damaging to the market, and explained the process of evaporation, and the cause of sour honey.

A general discussion ensued upon clipping queens' wings, Messrs. Cross, McWhorter, Mitchell, Goodno, Eschilman and Gardner taking part in it.

Pres. Roop described his manner of clipping. Uses round instead of sharp pointed scissors. Performs the operation on the comb by getting the queen to travel up the comb. Has the frame resting on top of hive, and by slipping the scissors up under and always clipping the left wing. He was less liable to injure or frighten the queen in this manner, than by catching her.

D. Gardner gave his plan of hiving new swarms.

A general discussion ensued, upon shading hive.

O. R. Goodno endorsed Prof. Cook's plan of having evergreens, but thought it expensive, especially where the soil is not adapted to evergreengs, as well as the price to be paid for them. He favored the portico which he uses as a partial shade, but does not consider it sufficient, and used loose boards to some extent in addition. He now proposes to set out peach, or some other rapid growing low top trees, for shade.

D. Gardner objects to much shade, owing to the inconvenience of seeing swarms issue.

Pres. Roop described his plan of shade; not believing in grape vines, and trees being so uncertain of life, he favors a shade made by posts extending 7 feet above the ground and nailing a piece across the top long enough to receive 2 boards 12 inches wide, then setting hives 18 inches back of the posts; rows of hives to run East and West. This height, allows the apiarist to pass under the boards, and at the season of year that they most need shade, by setting them back 18 inches from the posts, it will bring the shade where it is most needed.

The subject of "Italian vs. Black Bees" was discussed at length. President Roop enumerated the superiority of the Italians over the blacks as honey gatherers, convenience in handling, and illustrated his method with a hive and comb.

Adjourned until 1:30 p.m.

AFTERNOON SESSION.

The President in the chair.

It was resolved that questions for discussion should be submitted to the Secretary in writing.

The first question, "What advantage has artificial swarming over natural swarming?" This question was discussed very freely, without arriving at any discision.

Wm. Daniels described his method of transferring.

D. Gardner, Wm. Daniels and President Roop gave their methods of returning swarms.

Mr. Daniels explained his winter hive which was on exhibition.

The Secretary was appointed a committee to examine articles on exhibition, and mention those most worthy in his minutes.

O. H. Townsend was made an honorary member.

The next place of meeting was left with the officers. Adjourned to the third Tuesday of Dec., 1879. Hiram Roop, *Pres.*

O. R. Goodno, *Sec.*

[The enumeration of articles on exhibition is omitted for want of room.—Ed.]

Muscatine, Iowa, Dist. Convention.

Pursuant to call, a number of the bee-keepers of Muscatine and vicinity met at the court-house in Muscatine, Iowa.

The meeting was called to order at 10:30 a. m.; W. J. Ronald, of Grand View, was elected Chairman, and W. T. Kirk, Secretary.

The object of the meeting was stated by Messrs. Lord, Allen and Van Camp, to be to form an association of bee-keepers embracing at least the counties of Scott, Cedar, Johnson, Louisa, Muscatine, in Iowa, and Rock Island and Mercer, in Illinois, or parts of the same.

On motion of A. N. Van Camp, the Association was named the Muscatine District Bee-Keepers' Association.

On motion, the chair appointed A. N. Van Camp, George Parks and Lewis Coe, committee on permanent organization, and constitution and by-laws for the Association. Then followed enrollment of members, as seen annexed to the constitution. On motion, adjourned until 1 p. m.

On re-convening, the constitution and by-laws, as reported by the committee, were adopted. On motion, proceeded to election of officers for the succeeding year, by ballot, with the following result: Maj. Lyman Allen, President; W. T. Kirk, Vice President; A. N. Van Camp, Secretary; Richard Lord, Treasurer.

On motion, it was decided to hold the next meeting at Muscatine, and time of meeting fixed for Thursday and Friday, May 8-9, 1879.

After a few brief remarks on subjects of interest to members present, the Association adjourned. A. N. Van Camp, *Sec'y.*

P. S.—I would add that all bee-keepers residing in the above territory, are requested to join the Association, and can do so by sending their names and 50 cents to L. Allen, President, or to the Secretary, at Wilton, Iowa, or the Treasurer, at Muscatine. Ladies free. Readers of the American Bee Journal, in the District, are requested to talk the subject up with neighboring bee-keepers, and let our first regular meeting be a big success. Come!

A. N. Van Camp, *Sec'y*, Wilton, Iowa.

Our Letter Box.

Rochester, N. Y., Jan. 12, 1879.

I send the following recipe for a severe cold: Take 1 ounce of hops and 4 ounces of rock candy. Boil in 1 quart of water till 1 pint is left, then strain, and add 8 ounces of comb honey. Take 3 to 4 tablespoonfuls a day. M. J. Wagner.

Brandywine Summit, Pa., Jan. 9, 1879.

Last month some one stole 3 colonies of my bees, taking 1 each night. I hope some electric machine may be made and sold that will protect our bees. My bees are enduring the cold weather well, and are all wintering good. J. T. Williamson.

Light Street, Pa., Jan. 8, 1879.

I have several volumes of the Bee Journal when published by Mr. Wagner, and find that it still holds its place as the *best* bee periodical published. It advocates the best interest of its patrons, and as long as it does this it shall have all my influence. My bees went into winter quarters with plenty of stores, but had mostly old bees—the late honey resources being cut short by the drouth. Do not let up on glucose, until a law is enacted with severe penalties for its use in adulteration of honey and syrups. Success to the Bee Journal.

H. H. Brown.

Bellevue, Ill., Jan. 7, 1879.

On page 18, January number, Mr. Dadant, says: "There can be no fear of being prosecuted for selling pure liquid honey, for the lack of granulation is not a proof of adulteration; yet if, in December, I was offered a lot of liquid honey I would be very suspicious about its purity, because I know unquestionably that all honey gathered in Illinois will granulate in the fall."

Now I think Mr. Dadant is mistaken, for *all* honey does not granulate in the fall that is gathered in Illinois! I have some liquid honey that was gathered in Illinois; it was taken out of the hive in the past fall, and has not granulated up to this date. Also have some liquid honey that was taken out in the fall of 1877; it still remains liquid, and does not show any signs of

granulating! For fear some may think I have an "axe to grind" I will say I do nothing to keep my honey from granulating; I fed my bees nothing, and what honey I have, the bees gathered without my assistance. Some of my honey granulates but some does not. Can some one give a reason?
W. E. McBride.

[Mr. John F. Lafferty, of Martinsville, Ill., also states that not a particle of his crop of this year has granulated, nor does it show signs of it, although kept in the honey house and is as nice a crop as ever he had. He adds; "Usually it granulates, but not always by any means." It is evidently true, therefore, that pure honey does not *always* granulate—though it does usually.—Ed.]

Waveland, Ind., Dec. 25, 1878.
The last season was a good one, here, for bee-keepers. Although up to May 20, it was very poor. Apple bloom did well and gave the bees a fine start in brood rearing. When that was over we had a spell of cold, wet weather, lasting to about May 20. I had to feed to prevent starving. Isaac Sharp.

Winterset, Iowa, Jan. 3, 1879.
The honey season was poor, with but little section in the bloom, until August and September. We extracted about 1,000 lbs. from 27 colonies and their increase. Our bees were short of stores in the spring, and being short of means, they suffered and I lost probably 1,000 lbs. from not feeding. Have 47 colonies with plenty of stores. "Honey, as Food and Medicine" came to hand; I shall send for a lot of them soon. It and Cook's Manual are very valuable.
Moses Bailey.

Harrisonville, Mo., Dec. 31, 1878.
On December 12, it began snowing, and continued, without intermission for 24 hours. It settled to the depth of 18 inches and still remains on the ground. This is the deepest snow ever seen here. My 90 colonies of bees are all on their summer stands and snowed under, but the snow is settled, so that I can now see all the hives. I have not disturbed any of them for I think the bees all right. All I did to prepare them for winter was to remove the upper stories, or supers, and contract the entrances. I use Langstroth hives. All bees in this region are wintered on their summer stands. I received your copy of "Cook's Manual" and find it terse and practical.
Lee Emrick.

Hadley, Ill., Jan. 6, 1879.
The year of 1878 is gone, and it was not the most successful one for our bees that I have seen. I got about two tons of extracted, and half ton of comb honey. It is nearly all sold; my home market will consume it all. I have at present 138 colonies, part in cellar and the rest in a house built for the purpose. I have not lost 10 colonies in wintering during the last 6 years. Some one asked in a late number of the Bee Journal if Italian bees worked on red clover? With me they did through the month of June, and until the first crop of clover was cut. On all fine days I found 5 bees on the red clover to 1 on the white. This I have observed for the past 10 years, or ever since I introduced Italian bees, and I consider them nearly moth proof. I have not wintered less than 100 colonies for the past 15 years. I have not sold any for 2 or 3 years, until this fall. I like natural swarming the best. I do not let any swarm but once. From 100 to 125 colonies being all I care to handle. I keep them down to that number. The hives, combs and honey are worth more than the beees would sell for, though there is nothing I so dislike as killing my pets. Frank Searles.

Noblesville, Ind., Jan. 4, 1879.
I commence the New Year with many new and good ideas. I expect to make the coming season one of pleasure and profit, for surely both are found in practical bee-keeping. I wish, by no means to insinuate that I am a practical bee-keeper, as my short experience would not insure the assertion, but I will say that by persistent labor, assisted by the American Bee Journal, I expect to acquire a considerable knowledge of that industrious little insect. My success last year was very encouraging, and much I owe to comb foundation, for by its use I was able to increase my colonies, and receive more honey that I could have possibly done otherwise.

I would like to hear an expression from the friends and the editor of the A. B. J., in regard to the practicability of wired-flat-bottomed comb foundation. Also, how would you establish a honey market, in a town of 2,500 inhabitants?

I winter my bees in a bee-room not a cellar, like it much better than out-door wintering. Hope to see a great many bee-keepers at the National Convention next October.
L. M. Wainwright.

[Both questions are answered in this number of the Journal.—Ed.]

East Fairfield, O., Dec. 27, 1878.
Our bees came through the winter without loss, and were strong enough to give several swarms before fruit bloom ceased. The cold rainy season followed paving the way for an abundant white clover harvest. We averaged from 40 to 50 lbs. of comb honey to a hive, besides a handsome increase.
Job Huestis.

Brecksville, O., Dec. 27, 1878.
Bees are in winter quarters, in apparently good order. But the weather during the past week has been very cold and "trying" to those outside—high winds and mercury at zero. The American Bee Journal is the leading periodical of its class in this country, if not in the world! and we recognize it as the standard authority in apicultural matters among bee-keepers generally. I trust that no efforts will be spared to maintain the high position it already occupies in the estimation of *producers* as well as consumers. Accept a host of good wishes for its success.
Chas. S. Burt.

Chillicothe, Mo., Jan. 18, 1879.

I've got more than value received, for all I have expended on the JOURNAL.

G. W. PIPER.

Waterloo, Ky., Jan. 3, 1879.

The weather has been very cold here; 18 degrees delow zero last night. Many bees in this section will be destroyed, I think. Those in box hives are dying out rapidly.

R. L. AYLOR.

Maryville, Tenn., Jan. 14, 1879.

The entire season has been unfavorable. Out of 125 colonies we have had but 3,000 lbs. of extracted honey, leaving the colonies in good condition. We have lately had some very cold weather (10° below zero) and sudden changes. Many bees in this locality have perished.

W. T. PARHAM.

Valley Mills, Ind., Jan. 4, 1879.

What is the best plan for extracting honey out of the cappings and pieces of comb that it sometimes becomes necessary to cut off?

J. J. WHITSON.

[Cappings may be placed into a pan with a wire screen bottom, which should be placed over another pan with a tight bottom. After draining all they will, place them into a pan, and put them into the stove oven where there is a slow fire leaving one of the doors open a little. They should be placed lightly in the pan—not packed down. The heat will slowly liquify the whole; when this is done put it away to cool. When the wax has cooled on the top, and while the honey is still warm, tap it at one edge, tip up the pan and draw it off. The wax and honey is thus separated without waste. This honey is of excellent quality.—ED.]

Centre Valley, Pa., Jan. 8, 1879.

Conversing with a neighbor on bee culture, I found him a box-hive man, one who never reads a bee book or periodical. He insisted that the drone laid the eggs. I tried to convince him that the queen is the prolific parent of the colony, but he would not believe it. I tried to convince him that the BEE JOURNAL would give him many useful hints concerning bee culture; "No!" was his answer; "he knew enough of bee culture without any journal." I laughed at his foolishness, and went home.

PRESTON J. KLINE.

Columbus Wis., Jan. 3, 1879.

Last spring I commenced with 1 colony of bees which I increased to 5. In August I bought 44. I am wintering them out of doors. They are in Langstroth hives. In November I removed the honey boards and placed a piece of unbleached cotton, double, over frames and then filled the upper part of the hive with clean straw. At this writing the temperature is for the second time 20° below zero. The hives are also, except 4 or 5, banked up, all but the front part, with straw. The only trouble I have had, is the entrance to the hives filling with ice. Have cut out the ice of some hives every third day, since December 7th; since which time it has not been warm enough to thaw, even in the sun. The bees are so lively that they come to the entrance to attack me during this operation. In most of the hives I removed all the frames leaving but 4 or 5 in in the middle then put a division board each side of the bees. My hives contain 10 to 12 frames.

F. C. ELDRED.

Berkshire, N. Y., Dec. 16, 1878.

1 Will clipping a queens wings prevent swarming?

2 Will cutting out the queen cells prevent swarming?

3 Will narrowing the entrance to a hive so as to permit only workers to pass prevent swarming? If so, what is the exact width of an entrance that will permit a loaded Italian to pass and not permit a queen to pass?

4 What is the best arrangement for such an entrance?

5 What are the names of all the hives that are covered by patents?

6 What is Bingham's patent on the tube and bellows smoker?

7 Has any one a patent on a honey extractor or any part of one?

WM. C. LEONARD.

[1 No; It will prevent the queen, and consequently the swarm, from going away; but when the cells hatch, then the swarm can leave, if not cared for.

2 No; unless destroyed as often as the bees re-build them; and even then, a swarm sometimes issues before any cells are started.

3 Contracting the bee passage so that large queens and drones cannot pass, is a great hindrance to the workers and ventilation of hive. Mr. Heddon tells us that he has experimented largely in this matter, and believes he has the best "non-swarming attachment" yet devised, but even this is practically a failure. We understand that all attemps in this direction have proved futile.

4 Answered above.

5 Their name is "legion."

6 It is an ordinary one covering, the whole thing.

7 Mr. Muth has one, claiming the sloping-side of the comb-basket.—ED.]

Limerick, Ill., Jan. 10, 1879.

I received from you Cook's New Manual. It is better than I expected. It is the book that I have been wanting, ever since I first saw it announced in the JOURNAL.

Last spring my bees were in box-hives, but the swarms I put into Oatman's Modest. The box-hives having honey-boxes as a drawer, I put a pillow in them filled with timothy chaff and sticks to keep it up from the holes to absorb the moisture. It froze

on the top of pillow, but not in the holes from below, those without pillows have frost in the holes from below, almost closed. The Modest hive has four ½ inch sticks across the frames; a quilt; then a 7 inch cap filled with dry oat-straw. They do not have half the amount of ice at the entrance that the box-hives have. All are on the summer stands, or open shed facing south-east. Some bundles of long hay are used as wind breaks which are bent over the hives.
E. Pickup.

Gifford, Iowa, Dec. 12, 1878.
I have 63 colonies of bees, and I fear they are getting diseased. Some are dying off rapidly, and are crowded out at the entrance of the hive. I have over 40 colonies in a shed, enclosed all around. An opening in the center, about 20 feet. gives them plenty of room to fly out and return to the hives. I had 33 colonies in the same shed last winter and lost none. They have no dysentery yet, but I think they will have it soon. I lost 35 colonies 5 or 6 years ago, with bee cholera, and fear these will all go the same way. I use the 8 frame Langstroth hive. Please tell me, through the Journal how I can save my bees. H. S. Hastings.

[By this time, the fears of Mr. Hastings will have been realized, or the bees will be quiet and comfortable. If they have the dysentery, there is no remedy known.—Ed.]

Indianapolis, Ind., Jan. 11, 1879.
I have 55 colonies, apparently in good order, at the Spring Hill farm-house apiary. The mercury outside was 14° below zero; inside it was 33° above. My house apiary pleases me much. I had 40 acres of alsike clover and 2 acres of melilot, which the bees worked on, and some of my colonies gathered, I think, over 300 lbs. of honey. I sell all my honey for 20 to 25 cts. per lb.
W. A. Schofield.

East Townsend, O., Jan. 1, 1879.
I herewith send you a view of my home-apiary and bee-house, for wintering bees and storing honey. I am a bee keeper in a modest way, having now 130 colonies. I had 95 at the commencement of the honey season. I took 7,000 lbs. of surplus, 4,500 of comb in sections, the balance extracted, and have sold nearly all at 17c. for selected comb at wholesale, and 20c. retail; 12½c. for extracted at retail, and 10c. wholesale. Have no trouble in selling honey put up in attractive shape. H. R. Boardman.

Winchester, Ill., Dec. 23, 1878.
From last week in May to last week in August was a good honey season. The early spring and through fruit bloom was wet and too cold, while the early frost cut off all fall bloom here, just as it began to afford bees pasture. I started with 6 strong and 1 weak colony. Had 2 natural swarms; 3 wild swarms came to me, and 1 bought 4 late in the spring. Got about 1,200 lbs. of honey, mostly comb. Sold the extracted at 15 cts.; comb 15 to 20 cts.—mostly 20 cts. Put 22 colonies into winter quarters; that is, I have nearly all in double-walled hives with quilts, and from 6 to 12 inches of buckwheat chaff on top. Improved my double-walled hive so that one can be opened clear, and either standing or hanging frames used in it, and either open or close top-bar. Shall try Armstrong "Centennial" the coming year. Success to the Journal.
Wm. Camm.

Knoxville, Iowa, Dec. 15, 1878.
1. What is the cause of nearly matured brood not being capped over, but, instead, the cells are lengthened out?
2. There are 300 colonies within 3 miles of us. Is that over-stocking, when white clover, basswood and fall pasturage are good; if not, how many more colonies can be kept profitably?
3. How many cubic inches should a hive contain to give the best results?
4. Will colonies having no bee-bread breed before getting pollen, when fed?
We put 60 colonies in winter quarters December 1st, and intend to increase as fast as possible next year.
Bittenbender Bros.

[1. This is often the case where the brood is that of a fertile worker.

2. When these three sources yield well, all may pay a dividend; yet it seems to be the growing opinion among the most observing bee-keepers, that a location having every source except those mentioned would be over-stocked, and the yield from these would be less, *pro rata*, than if only one-third of that number of colonies were kept. Much, however, depends upon the bountifulness of the season and locality.

3. About 2,000. The tendency seems to be towards smaller rather than larger.

4. Bee-bread is essential to brood-rearing.—Ed.]

Augusta, Ga., Jan. 10, 1879.
From the description of the Japan plum, *Mespilus Japonica*, by J. M. Putnam, Esq., of New Orleans, and the comment upon it by Prof. A. J. Cook, I fear many Northern bee-keepers may be tempted to try its cultivation. For the information of such, I will inform them that even the latitude of Augusta, Ga., is too cold for it to fruit. It is not worth cultivating higher than 32° N. South of this, it does well, and is all that is claimed for it. J. P. H. Brown.

Eagle Lake, Minn., Jan. 6, 1879.
I have 160 colonies in the cellar; had 87 last spring, and have obtained 1,400 lbs. of honey this season. I am interested in the improvement of Italian bees, but I do not think we can always rely on color. My Italians are uniform in marking and of beautiful appearance; they are better honey gatherers and much more pleasant to handle than hybrids. The sale of untested queens will ruin the qualities of Italians. Producers must have a bee that will gather honey when it is scarce. H. A. Simonds.

New Orleans, La., Jan. 13, 1879.

I send a cluster of some flowers of the Japan plum taken from a tree yesterday afternoon. On the 4th, 5th and 6th we had a freeze and sleet that coverer everything quickly with a coat of ice, which remained on the trees for three days. Since that the weather has been alternately thawing and freezing. There are yet on them a quantity of buds and fresh bloom like those sent. The young fruit is not injured by the cold. The endurance of the tree is certainly extraordinary. I think we shall have abundant fruit in February or early March.

JNO. M. PUTNAM.

[This is indeed an extraordinary tree. The sweetness, strength and persistence of the odor is also remarkable.—A. J. COOK.]

San Diego, Cal., Dec. 28, 1878.

I am shipping extracted honey for myself and others direct to a house in Hamburg, Germany, and draw on them for advances equal to the selling price here. I have shipped 500 barrels of 300 lbs each, already, and shall probably send considerable more this winter. Any one who thus advances the price to producers, encourages the business of bee-keeping and benefits the community.

CHAS. J. FOX.

Lawson, Mo., Dec. 27, 1878.

I commenced the season with 150 colonies, iu fair condition. The spring opened one month earlier than common, and bees did well up to about May 12th, when we had 8 days of very cold weather. Bees killed off all their drones and destroyed all queen cells. But they commenced swarming about June 1st, and my 150 colonies increased to 305 and I got 8,000 lbs. of white clover honey. I got no fall honey on account of severe drouth.

J. L. SMITH.

Millersville, Ill., Dec. 7, 1878.

I have a plant which grows from 4 to 6 feet high known as the spider plant, we had about one-tenth of an acre of it this season for bee pasturage. The plants should be set about 2x3 feet apart, in good soil to give a rank growth. It blooms from June until frost. Ours commenced to bloom in June, and I found bees on it the 18th of October, it was killed that night. We expect to plant several acres of it next season, and give it a good trial.

MRS. MOLLIE O. LARGE.

Wayne, Mich., Jan. 5, 1879.

Things trifling at first appearance may be of importance sometimes. When we discover a swarm of bees on the wing, it is of much importance to know from what hive they issued. Nine times out of ten it may be determined by viewing the ground in front and near each hive, for some little time after the swarm issues more or less young bees, too young to fly, will be found crawing thereon. It made be desirable to know when combs need pruning in consequence of age and the filling up with the cocoons and other matter, which prevents the possibility of the brood raised therein being of full size and perfect; notwithstanding, some have stated that they can be used indefinitely, as the old bees cleaned out the cocoons. One remarks, that if the cells are small and the bees are small when they issue, they will soon grow to usual size. Not being a believer in either of these assertions, I examine my hives, in breeding time, after the colony has been confined a day or two by stress of weather and the young are sporting as it is called, and when in front of hives with very old combs I find many young bees, mere drawfs, some deficient in wing, imperfect and unable to fly, &c., I examine the hive, and if I find comb, that the bees have forgotten to clean out, some cells full, others half full, &c., I prune them. This may be done in the fall after breeding is over.

E. ROOD.

Sandwich, Ill., Jan. 20, 1879.

I have been interested in bees for several years and have closely watched all the plants visited by bees, growing in this part of Illinois, and I will say that the common hemp stands far ahead of anything I ever saw. Bees literally swarm on it, from early daylight till dark. It is a wonder that others have not noticed it and made it known. It is easy cultivated, growing so strong and rank as to take care of itself, if once started. I shall sow about ¾ of an acre, and I would be pleased to hear from others. What is your opinion in regard to the honey market for 1879? I have contracted all this year's crop at 10 cents per lb.; the purchaser to furnish barrels. It will be mostly extracted.

ALEX. WILDER.

[You did well. No man living can more than guess about the future—and one can do that as well as another. If you can make such a contract for next your, we should say, it could not be disadvantageous.—ED.]

Carrollton, Mo., Dec. 12, 1878.

This is one of the best counties in the State for bees and honey. G. W. Kennedy, a young man from Ohio began bee-keeping here in 1871 with 2 colonies of native bees, that season increased to 8; the winter being very bad he lost them all, so in the spring of 1873 he bought 2 more and took a new start. That year (1873) he only increased to 4, paying but little attention to his bees until 1875, when he increased to 7 colonies, which produced 700 lbs. of comb honey. This season he has 86 colonies of Italians. They produced 4,500 lbs. of comb honey and sold it at an average price of 14 cents per lb. During those years from 1873 to 1878 he has sold 50 colonies of bees and 65 Italian queens. He uses Langstroth and American hives but likes the Langstroth best for securing honey. Dr. Bolen, of Carrollton, is the bee king of this State. And Mr. Kennedy knows more of scientific apiculture than any other man. Dr. Bolon began bee-keeping here in in 1871 with 7 colonies of bees; to-day he has 300 colonies of bees, all Italians, in American hives, and sold 7,000 lbs. of honey. This year he increases by division on K. C. Kidder's improved plan. To this he attributes his success. Uses Root's extractor. His market is Kansas City, Mo. The Dr. is one of the solid men of Carroll Co., and a reader of the BEE JOURNAL.

COSMO.

Columbia, Tenn., Jan. 7, 1879.

1. Will bees feed upon sorghum? If so, how would it do to thin the best article with water, and feed in combs, to sustain life during winter, and to stimulate to early breeding in the spring? I do not propose to feed for storing, but slightly to stimulate, and for sustenance when honey is scarce. Would it be detrimental to the bees?

2. I have observed that bees have a great fondness for apple cider. They flock to the cider-mill in such numbers, that I have to grind and press at night, to prevent their destruction. Do they gather honey from the cider; if not, what is the attraction? Is the cider beneficial or detrimental? They seem, also, to be greatly attracted by ripe and decaying peaches. What benefit, or detriment, do they get from them?

John Fox.

[1. The sorghum prepared as you propose, might do for food to sustain life in the spring, but we would not advise its use in winter, nor for stimulating.

2. We fear that all such juices of fruits are of little or no value, and may be the cause of death in many cases.—Ed.]

Napa, Cal., Jan. 4, 1879.

In the fall of 1877 I had 3 colonies of black bees and 3 of weak Italians. By purchases, in the spring of 1878, I had 15 colonies of blacks and 3 of Italians, in box hives. I Italianized all, and increased to 45; 4 being in improved Harbison hives; 6 in Quinby hives with closed ends; and 35 in Langstroths; all in good condition. I increased from 75 to 500 frames of good worker comb—equal to a gain of 71 lbs. of beeswax, allowing 6 frames to a pound. I have raised about 100 queens.

J. D. Enos.

Oak Park, Ill., Dec. 17, 1878.

I have read the Journal for two years and have been much benefitted by it. I have now in the cellar and out-house 24 colonies apparently in good order. The lightest I put in the cellar to enable me to see to them during the winter and spring. For division boards I use frames covered with a piece of hardware paper. Cut a strip as wide as the frame, the long way; lay paper on the floor; commence at the bottom, lay the frame on the paper, turning the bottom end of the paper over the bottom bar of frame; tack it to the edge; take the top of the paper and double it down over top bar to the bottom, and tack that; then with a pair of shears cut off the paper a little longer than the frame, so that that the edge will rest on the bottom board of the hive. Now utilize any old flannel shirt, sheet, coat, pants, &c., that you may have, by facing the one side of the frame with the cloth; using strips, &c., the paper should be clipped under the top bar to give a little as the frame is pushed down in the hive, but will touch the ends and bottom, making all tight. Try it, and see what a light, nice and warm division board it makes. It will be useful while making a breeding chamber in the spring.

G. W. Brown.

Acme, Mich., Jan. 11, 1879.

Bees do not discharge their fæces except on the wing, when in health. The queen flies but once, to meet the drone. Two statements which I have never seen contradicted, and which lead to the following conclusion, viz: The queen never discharges any fæces. How is this?

S. P. Tracy.

[Bees *do* discharge their fæces within the hive, when in health; it being then simply a small pellet of dry sediment, and hardly noticeable. At least such is the opinion of some of our closest observers. Many laws governing the males and neuters have no influence upon the queen.—Ed.]

Malcom, Iowa, Jan. 9, 1879.

We have had a month of severly cold weather with hardly any let up. Thousands of colonies of bees have died in this and adjoining counties in box hives, on their summer stands. Congealed masses of frost and ice filled many of the hives. I heard this evening of 60 colonies out of 100 that had died in one apiary. A few days ago I examined 40 colonies in my double-walled hives and every one was dry and in the best possible condition. I opened a smaller colony to-day, only about one quart, and they were lively and nice. When will bee-keepers learn to arrange their bees in a comfortable hive that they may not lose from one-half to two-thirds of them every winter?

Wm. Clements.

Liberty Centre, O., Dec. 20, 1878.

I have been to Linn county, Iowa, staying with Mr. Hunt, at Center Point, some 7 weeks. He has 272 colonies, but an accident, breaking one of his limbs, prevented him from attending to his bees. I found them filled with honey, which I extracted, though it was Oct. 22d when I got there. The report of Mr. Hunt, in the statistical table in the Journal for Oct., was what he had obtained at the close of basswood bloom. He ran 108 colonies for box honey, which averaged about 50 lbs., making a total of over 5,000 lbs. That table gave Mr. Hunt 1,140 lbs. of extracted honey; since then I have extracted about 2 tons more. That is one of the best localities I ever saw for honey production. Mr. Hunt winters in the cellar successfully.

D. Clifton.

Columbia, Tenn., Jan. 6, 1879.

I propose to run about 25 colonies during the coming season—not for honey, but for increase. Apiarists appear to agree that the best method is that of division. Taking one or two frames of maturing brood, with the adhering bees, and with these make the new colony; supplying the place of the removed brood combs, by empty frames, or with empty combs, if you have them. This seems to be the method taught by Prof. Cook, in his book. This was the plan I had determined on, as a matter of safety and convenience, not having time to remain by the bees and watch them, during swarming time. In the January number of Journal page 11, G. M. Doolittle, says: "If empty frames are supplied in the place of combs of brood removed, that the bees will generally build drone comb in the empty frames." Having no empty combs, what am I to do? I do not want my hives filled with worthless combs, and my yard with worse than worthless drones. Had I better take the risks and trouble of natural swarming; or will Mr. Doolittle tell me how to divide, without empty combs, and have the bees build worker, and not drone comb? John Fox.

The people of Brunswick, Mo., tell me that in 1860, for several days, the bees passed over this place in immense swarms all day long for three days, like swarms of grasshoppers in Kansas. They went in a southwesterly direction, and in Howard county they were stacked up like small hay-stacks; they hauled straw and covered them, then set it on fire and burned them up. The people are willing to swear to it. Now, is this possible or not? Cosmo.

[The story is "too thin" to be believed by any intelligent bee-keeper of to-day. Undoubtedly they were flies, or something in some measure resembling bees. Think of the multitude of things, wholly impossible, that many good people have been willing to "swear to" in ages past. We are progressing, but superstition is not yet extinct.—Ed.]

Borodino, N. Y., Jan. 7, 1879.

On the morning of the second day of this year it commenced to snow very fast and continued to do so till yesterday. At noon Jan. 2, the wind came up from the northwest blowing at a fearful rate, and the air was filled with drifting snow, in a twinkling. Thus it continued till last night and as a result a part of our bees are 10 feet under the snow, and most of them are out of sight. Our bee cellar, also, we have lost all track—all being one smooth plain of snow over nearly all our bee-yard. We have had no mail since Jan. 2, and have wished so many times for the January number of the American Bee Journal to read during this time. Our roads are from 4 to 12 feet under the snow. G. M. Doolittle.

Callicoon, N. Y., Jan. 10, 1879.

I see on page 41, January number of your valuable Bee Journal, that Mr. Heddon has gotten up a surplus honey register, which indicates the state of the boxes in a hive, whether full, nearly so, &c. It is neat and and very useful." Without claiming the neatness, I have adopted a plan, practical and useful, in my apiary of some sixty hives, for precisely this object in view, where one glance over the whole apiary will give indications of hives needing looking after, or their probable arrival at that state. It is simply as follows: By taking any ordinary stick, like a piece of lath for instance, say 1 foot long, and placing it lengthwise with the eaves or outside edge of the roof or cap indicates the first stage; at right angles therewith, indicates nearly filled; placed on the center of roof or cap, full or being capped, etc., or any mode upon this principle will answer sufficiently; as no positive register of progress of surplus is needed in writing, if so, the simple registering slates are good. The whole business of the apiary being made up of small (in themselves insignificant) items, this suggestion of mine is so simple, I think it will be adopted by many. With Cook's Manual, the New Year's gift I volunteered myself, I am more than pleased. It is up to the times in every particular, and not with canting tones does the Professor frown down new and useful inventions; but, on the contrary, compliments the ingenuity and genius of those who may improve upon the old—willing to reward *honest* labor, and thus keep the 8th and 10th Commandments, to which he refers (Exodus 20 : 8, 10), a real incentive and legitimate zeal to spur on to Excelsior. This Manual is as far ahead of the old, as Langstroth's and Quinby's were such in their day. I hope the richest reward awaits the author. A. E. Wenzel.

Lansing, Mich., Jan. 9, 1879.

I wish to express my deep sorrow, that my friend, "Common Sense" (a sorry *nom de plume* for such an article)—for I recognize the style as that of a warm friend—should write the harsh letter about Mr. A. I. Root, which appeared in your January number.

If we have a reverent love for Christ's teaching, as the writer suggests, will we not avoid "evil speaking"? will we disobey the "judge not"? will we condem, in the most ungenerous terms, a man who is working with untiring zeal to further the interests of our art, who has done a mammoth business so fairly that we hardly hear a word of complaint? whose daily walk among his neighbors is stoutly commended; and besides his immense business, finds time, aye, and inclination, to visit the jails, and the rough and dissipated of his neighborhood, working successfully to lead them to a better life? The men inured to crime, whom he has persuaded to better things, would certainly answer, No. I cannot defend some of Mr. Root's views and teachings, I do not admire his frequent personal allusions, nor his oft-repeated public references to his past wayward life; yet I can and do rejoice that he is striving, and I believe with success, to do good, and live a better life than he has in the past. Therefore, I can but feel that to compare him Uriah Heep, is very unkind and uncalled for. Would not "Common Sense" do far more good to write a kind personal letter to Mr. Root?—though not for publication, for such letters better never go to the public. He will then leave out harsh words, the odious comparisons, and will couple with his "reverent faith" more of Christian charity. Mr. Editor, I sincerely wish that you, as well as all our editors, would entirely omit in future, these unkind words; they make not for peace not good will; they are not profitable. A. J. Cook.

[Several articles on this subject, *pro* and *con*, are received, but having now given space to one on each side, we must be excused from publishing any more. The Journal is "devoted exclusively to bee culture," and criticisms upon the "good taste" of self-accusations in the religious department of another paper, are quite "out of order."—Ed.

Business Matters.

OUR TERMS OF SUBSCRIPTION,

PAYABLE STRICTLY IN ADVANCE.

Single subscription, one year........................	$1 50
Two subscriptions, sent at the same time........	2 50
Three " " " "	3 50
Four " " " "	4 50
Five or more, " ..each,	1 00

☞ If not paid strictly in advance, TWO DOLLARS per annum will charged in all cases.

Advertisements will be inserted at the rate of **20 cents** per line of Agate space, for each insertion, cash in advance. One inch measures fourteen lines. Special Notices 50 cents per line.

☞ A line will contain about eight words; fourteen lines will occupy an inch of space. Advertisements must be received by the 20th, to insure insertion.

Notice to Advertisers.—We intend only to advertise for reliable dealers, who expect to fulfill all their advertised promises. Cases of *real* imposition will be exposed, and such advertisements discontinued. No advertisement received for less than $1.

Address all communications and remittances to

THOMAS G. NEWMAN & SON,
974 West Madison St. CHICAGO, ILL.

TO CORRESPONDENTS.

When changing a post-office address, mention the *old* address as well as the new one.

We send the JOURNAL until an order for discontinuance is received and all arrearages are paid.

We do not send goods by C. O. D., unless sufficient money is sent with the order to pay express charges both ways, in case not taken from express office.

In consequence of the dearth of small currency in the country, we will receive either **1, 2 or 3 cent stamps,** for anything desired from this office.

Strangers wishing to visit our office and Museum of Implements for the Apiary, should take the Madison street-cars (going west). They pass our door.

Additions can be made to clubs at any time at the same rate. Specimen copies, Posters, and Illustrated Price List sent free upon application, for canvassing.

Remit by post-office money-order, registered letter or bank-draft, payable to Thomas G. Newman & Son, so that if the remittance be lost it can be recovered.

We will send a tested Italian Queen to any one sending us **FIVE** subscribers to the AMERICAN BEE JOURNAL with **$7.50.** The premium Queens will in every case be tested, but not sent till after July 1st.

Seeds or samples of merchandise can be mailed for one cent per ounce, Printed matter one cent for every two ounces. These must be tied up; if pasted, they are subject to letter postage. *Don't send small packages by express, that can just as well be sent by mail.*

For the convenience of bee-keepers, we have made arragements to supply, at the lowest market prices, Imported or tested Italian Queens, Full Colonies, Hives, Extractors and anything required about the Apiary. Our Illustrated Catalogue and Price List will be sent free, on application.

We have gotten up a "Constitution and By-Laws," suitable for local Associations, which we can supply, with the name and location of any society printed, at $2 per hundred copies, postpaid. If less than 100 are ordered, they will have a blank left for writing in the name of the Association, etc. Sample copy will be sent for a three-cent postage stamp.

Our answer to all who ask credit is this: We sell on **small** margins, and cannot afford to take the risks of doing a credit business. If we did such a business, we should be obliged to add at least 10 to 20 per cent. more to our prices, to make up for those who would never pay, and to pay the expenses of keeping book-accounts with our customers—this we know our **Cash** customers would not think to their advantage.—This rule we must make general in order not to do injustice to any one. The cash system gives all the advantage to cash customers, while the credit system works to their injury. In justice to all we must therefore require **Cash with the order.**

"Facts are Stubborn Things."

The report of the N. W. Ohio Convention, as published in a Toledo paper, was received after our "Convention" department in this JOURNAL was printed. It contains the following as the action of that Convention:

> "The merits of the different bee publications were discussed, and Mr. Everett complained of unfair treatment by the editor of the AMERICAN BEE JOURNAL in reference to his extractor and the suppression of the most important part of the advertisement of the same. On motion, Mr. Fahnstock was appointed a committee to examine into and report at the next meeting if any cause for complaint exists. Jno. Y. Detwiler, of Toledo, O., suggested the feasibility of organizing the bee-keepers of America into a co-operative association, for the purpose of having a bee paper published solely in the interest of it patrons and not alone in the sale of its editor's wares."

The report of the Convention, with these charges, was published in the Toledo paper during the first week in January. Yet it was not received at this office until the 21st, ult. Meanwhile copies thereof have been sent to prominent bee-keepers in different States with letters denouncing all the Bee papers in general and the BEE JOURNAL in particular. These are asked to be considered "strictly confidential" and kept "secret" until the arrangements are made to carrying out the latter part of the above programme. Several persons to whom such documents were sent, have written to us for "the facts." But for this request and the "secret" scheming we should pass it all by in silence. But as our friends demand that the facts be made public, we cheerfully comply. Before doing so, we quote the following from a correspondent, who for the present shall be nameless:

> "Last night I received a lot of papers concerning an undertaking against all the bee publications—not so much against the BEE JOURNAL as it is against *Gleanings* and the *Magazine*, but really against them all....I was cautioned to keep it a *secret* until all the arrangements could be perfected, and I shall do so with reference to their plans. You have offended one man about advertising—was there cause for this feeling?"

There was *no cause* for the feeling, nor for the action of the Convention, as we shall proceed to prove beyond the possibility of a doubt.

A display of honey, wax and bee appliances was made last fall at the American Institute Fair in N. Y., during the meeting of the National Convention. Soon after arriving we received a notice that we had been appointed one of the judges on honey, wax, extractors, &c., by the Board of Managers of the American Institute. The judges met, performed their duties to the best of their ability with the best of feeling, and after the Convention adjourned, went home.

About a month afterwards Mr. Everett sent us some matter to appear in his advertisement, concerning his having received the award at New York Fair, adding these words: "competing with the Muth, Novice, and Excelsior extractors." We immediately addressed him this:

Chicago, Ill., Nov, 19, 1878.

FRIEND EVERETT:—Of course you are fully aware that no other extractor was entered for competition but yours, and hence it is unjust to say that it was in competition with any—being the only one, it had to take the award. If you presist in having it published of course I must make statement of the facts, in justice to Muth, Novice, &c., as I was Chairman of the judges; as Novice's was not there—only Nellis' make of it, and that would hurt you. Right wrongs no one. If you omit the words "competing with the Muth" &c., it will need no comment.

I am yours, &c., THOMAS G. NEWMAN.

He replied as follows:

Toledo, O., Nov. 20, 1878.

FRIEND NEWMAN :—I was not aware that my extractor was the only one on exhibition for competition, as I saw the judges examining all the extractors, as I supposed; but such being the case you may leave out the words "competing" &c., as mentioned in your letter. Truly yours, B. O. EVERETT.

The matter was we thought settled till we received the following letter:

Toledo, O., Dec. 16, 1878.

FRIEND NEWMAN :—....I have concluded to have the words "competing" &c., added to my advertisement, as in my first letter........The officers of the Association say that in the judgment of the judges, my extractor was the best there—and that is still the verdict of the the two judges (yourself of course excepted, as I suppose, you being interested had no voice) so I see no reason why I am not entitled to the laurels fairly won. Yours, &c., B. O. EVERETT.

In order to ascertain, whether we could be mistaken, we wrote the judges and the Secretary of the American Institute for the facts, with the following results:

New York, Dec. 31, 1878: THOMAS G. NEWMAN ESQ., Dear Sir :—Your favor of the 28th inst., at hand. In reply I beg leave to say that Mr. B. O, Everett was the *only party who entered Honey Extractors*; although there was others in the exhibition, I think belonging to Mr. King and others. The judges were the following: Thomas G. Newman, *Chairman*; J. W. Porter and H. Alley. I enclose a certified copy of the entry. Yours, &c., JOHN W. CHAMBERS, *Sec.*

The following is the certified copy of the original entry:

" Groupe 3, at the 47th exhibition of the American Institute, held in the city of New York, October and November, 1878.

" No. 1593 Honey Extractors. B. O. Everett, Toledo, O." "This is a true copy of the original on file."

JOHN W. CHAMBERS, *Sec.*, N. Y., Dec. 31, 1878.

Charlotteville, Va.: FRIEND NEWMAN :—....As to the award on Extractors, my recollection is clear; you said that as no others were exhibited in competition, we had to give the award to the Everett..... Mr. Everett has written to me complaining that you objected to his advertisement on the grounds stated. I answered as above, strongly advising him not to insert the clause or try to, for it would lead to ill feeling and that I thought such advertisements in bad taste.... J. W. PORTER.

Wenham, Mass., Jan. 7, 1879: FRIEND NEWMAN :—....You are right in your opinion of it. I know that only the Everett extractor was entered; nevertheless he did compete with all the others, else why were they all there. I do not know why they were not entered. HENRY ALLEY.

The latter are extracts from a long letter, but convey the writer's idea. He thought that Everett's extractor competed with all on exhibition—no matter whether entered or not. Any one can see, however, that such is *never* the case. To be competitive at any fair, everything must be entered and the entrance fee paid. If not who would incur that expense?

With all this testimony (excepting Mr. Alley's) before us (see date of letter), we concluded we should be doing Mr. Everett a favor as well as our readers *justice* in omitting the words "competing with Muth, Novice," &c., in the JOURNAL for January. We thought he had taken a rational view of it; since we had not heard anything further till we received the Convention report in question, and the letters of inquiry. We saw Mr. E. at the Michigan State Convention and talked with him. He appeared pleasant to us, but we since learn that he was then endeavoring to prejudice some of our friends against us—while at the very same time we were defending his character and doing him all the good we could, as will be seen by the following: At the Carson City Convention, Mr. Robertson, of Pewamo, Mich., publicly denounced Mr. Everett for unfair dealing, and condemned his extractor.—Prof. Cook, Mr. E. J. Hetherington or any one present, will testify that we defended his character before the Convention, asserting that we felt sure Mr. E., would make the matter satisfactory. We further told Mr. Robertson that the new gear now used by Mr. E., was good and strong.

As Mr. Robertson went with us to the State Convention, we took pains to introduce him to Mr. E., and stated before both parties, how we had defended him, &c. In consequence the matter we understand was arranged satisfactorily. We little dreamed that Mr. E., would, within a month, pay us for this kindness in the way he has, before the N. W. Ohio Convention, near his home at Toledo. But—"'Tis well!"

At the Michigan Convention we were also appointed a committee on apiarian supplies with Mr. E. J. Hetherington and Mr. Geo. E. Steele. Here, again, we did him service while he was *privately* engaged in trying to poison the minds of several members of the Convention against us, saying we were an interested party, and opposed to him, as we since learned. He was "complaining" about our being on the committee—which we asked to be relieved from, but was refused. As to our position before the committee let the following from our colleagues testify:

East Saginaw, Dec., 27, 1878: FRIEND NEWMAN :—In regard to the matter of the Everett extractor, we decided merely mention it as on exhibition, as it was fitted with the old gear. But at *your suggestion*, as he had a sample of the new gear on exhibition, not attached to the extractor, and on *your recommendation* as you had seen a machine filled with it, we decided to recommend it as worthy of special mention.

Yours truly, O. J. HETHERINGTON..

Elk Rapids, Mich., Jan. 4, 1879: FRIEND NEWMAN:—The Everett extractor was of the older pattern, Mr. Everett having failed to get the newer style there as he desired, but exhibited the new gearing separately. The Committee at first hesitated to recommend on account of incompleteness of the sample before them; but were unanimous I think, in praise of the machine when the new gearing should be adopted, with some minor improvements suggested by the inventor. If you had an interest in any other extractor you had also the "angelic" faculty of not "praising thyself" nor wares, before the Committee, and I had no idea that you could have an interest in any until I was so informed at the breaking up of the Convention. Be that true or false, I cannot say, but if you did (?) have a *pet* extractor, why on earth did you not bring it along, so that the Committee might have a chance to praise it, or so you might make a minority report and praise it yourself? I leave it to those who know, to answer. GEO. E. STEELE.

We have no interest in any apiarian supply on earth, and try to be *fair* and *honest* in expressing our opinion on *all* that are offered for sale, and sell any and all such, only on their merits.

We like Mr. Everett's extractor with the new gearing very well, and so told the committee. For this is he our enemy?

Our object for omitting the sentence in Everett's advertisement was not only to do justice to Messrs. Muth, Novice, King, Nellis, Coffinberry, &c., but also to save this explanation which cannot but be detrimental to Mr. E. Had he been satisfied to have stated the fact that the medal was awarded at the American Institute Fair, and not so persistently claimed that it was over other extractors not entered for competition it would have needed no comment.

One question will settle forever the whole. If he was in competition with all the extractors simply on exhibition—why did he pay $7.00 to enter his extractor for competition for the award? It suggests an answer which of itself would settle the whole controversy.

As Mr. Everett paid $7.00 for entering his extractor for competition, and as others did not care to do so, he was entitled to the award, but to say that he competed with others, not so entered, is untrue.

When we cease to control the advertising columns of the BEE JOURNAL—deciding whether or not to insert what may be offered, we shall also cease to publish the JOURNAL itself! Nearly every month we decline advertisements that we deem unsuitable, and shall continue to do so, as long as we publish the paper.

As to organizing the bee-keepers of America into an association for publishing a bee-paper, let all "do as seemeth them best." We do not think they can be easily persuaded to take stock in such an impracticable undertaking. If history teaches anything—it suggests an early demise for it, loaded with debt and disgrace. The springing up of so many bee-papers now, suggests the history of 10 years ago repeating itself. Will men ever learn wisdom from the past?

☞In the advertisement of Bourgmeyer's 6 inch Foundation Machine, a mistake was made by him in making the copy. The price should be $25—not $20. It is now corrected.

☞ J. B. Skinner, Carleton, Neb., wants to hear from any one having tried Catalpa. He desires to plant it extensively if it is a honey producer. Any one having had experience with it will oblige him by communicating the result to him.

☞The date after the name on the wrapper label of every paper indicates the time which the money received pays. Some do not seem to understand this and hence ask the question—"To what time have I paid?" By consulting the label on the wrapper every one can instantly determine how their account stands.

☞We have received from the music publishers, G. D. Newhall & Co., of Cincinnati, O., three excellent songs, viz: "The Old-fashioned Fire-place," "Lillie Dear," and "Jennie with the Nut-brown Hair."

Cook's Manual of the Apiary.

Concerning this excellent book, which should be in the hands of every one keeping bees, the following unsolicited testimonials are received: S. M. Tracy, Professor of Agriculture in the University of Missouri, says:

"The Manual contains more practical advice and directions than any, or all other books I have ever seen on bee-keeping. I cannot speak too highly of it."

The *Popular Science Monthly* says: "It is a handsome volume, elegantly illustrated, and contains all the information needed by those who desire to keep bees."

The Michigan *Homestead*, of Detroit, remarks: "We are often asked whose bee-book is the best?" At the head of the list stands that of Professor of Entomology at Michigan State Agricultural College, Albert J. Cook. It is entitled "Manual of the Apiary," and is published at $1.25 per copy by Messrs. T. G. Newman & Son, Chicago, Ill. This work is practical, scientific, fully up to the times, and written in plain language.

Advertising Value.

Some idea may be obtained of the value of the BEE JOURNAL as an advertising medium from the following letters:

Dundee, Ill., May 24, 1878.

We have been literally over run with orders. Our whole page advertisement in THE AMERICAN BEE JOURNAL is the cause of it. It is the best investment we ever made. J. OATMAN & CO.

Hartford, N. Y., Sept. 21, 1878.

I must say that the A. B. J. is a better [advertising] medium [than *Gleanings*] and gives lower prices.
J. H. MARTIN, in *Gleanings* for Nov., 1878.

As an advertising medium for reaching an enterprising, thrifty class of farmers, such as bee-keepers always are, the AMERICAN BEE JOURNAL has no equal.—*American Grocer*, of New York.

New York, Aug. 9, 1878.

An order for honey, from Algiers, in French Africa is just received, and the letter says that our address was obtained from THE AMERICAN BEE JOURNAL. H. K. & F. B. THURBER & CO.

St. Mary's, Ind., Nov. 21, 1876.

I find THE AMERICAN BEE JOURNAL a good advertising medium, and the charges are reasonable.
THOS. J. WARD.

☞ Those wishing a Premium Queen for getting up Clubs will now please send *five* subscriptions and $7.50, and we will send them a choice queen in July.

☞ Should any forget our address when on a visit to Chicago, they can easily procure it by consulting the City Directory to be found in almost every hotel and store.

☞Gregory's Catalogue of Vegetable and Flower Seeds is received. It contains 60 pages and is very attractive. All who are interested in seeds should send for a copy. See advertisement in this JOURNAL.

Honey Markets.

CHICAGO.

HONEY.—White clover, put up in single-comb boxes, in fair demand. Prices paid for such, 10@13c. When more than 1 comb in a box, 9@10c. Dark, in the comb, slow sale at 8@10c. Extracted Honey, white, 7@8c.; dark, 6@7c.

BEESWAX.—Prime choice yellow, 23@25c; darker grades, 16@20c,

NEW YORK.

QUOTATIONS.—Best fancy white comb honey, new, 12@15c; extracted, new, 7@8c; buckwheat comb honey, 10@12c; beeswax, prime, 27½c.

H. K. & F. B. THURBER & CO.

CINCINNATI.

COMB HONEY—In small boxes, 10@13c. Extracted, 1 ℔. jars, in shipping order, per doz., $2.50; per gross, $28.00. 2 ℔. jars, per doz,, $4.50; per gross, $50.00.

C. F. MUTH.

CALIFORNIA.

We have had rain in the Southern counties, which insures bee pasturage, and those who were holding their honey for a dull season are now shipping it in. Our best market for beeswax has been Hong Kong and China; new they are stocked, and the market here is dull at 20@22½c.

Quotations for comb honey are: White, 9@11c.; dark to medium, 7@8c.; extracted, 4¾@6c.

STEARNS & SMITH, 423 Front St., San Francisco, Cal.

Sutliff's Smoker Corner.

Arcadia. Wis,, Nov. 20. 1878,

I like the Smoker exceedingly well. In fact, it is perfection itself. I can control the most vicious hybrids at will. The long steady stroke gives a volume of smoke which I think cannot be excelled.

E. A. MORGAN.

Lake Maitland, Fla., Nov. 27, 1878.

I have received the Smoker. I have shown it to many, and all with myself pronounce it decidedly the best we have seen. E. T. STURDIVANT.

Mr. Bailey used one of Novice's smokers, and burned his fingers with it several times. He has now bought one of mine, and is well pleased.

Mr. Scofield, Nashua, Iowa, having worn out one of Quinby's, has bought mine, and says he would not take $5 for it. L. SUTLIFF.

Charles City, Iowa.

Local Convention Directory.

1879. *Time and Place of Meeting.*

Feb. 14.—South-Western Ohio, at Lebanon, O.
April 1,—Central Illinois, at Hillsboro, Ill.
May 1.—Southern Kentucky, at Gainsville, Ky.
6.—Albany County, N. Y., at Clarksville, N. Y.
6.—Central Kentucky, at Lexington, Ky.
7-8.—West. Ill. & Eastern Iowa, at Hamilton, Ill.
8-9.—Muscatine District, at Muscatine, Iowa.
21.—North Missouri, at McCredy, Callaway Co.
28.—North-Eastern Wisconsin, at Hartford, Wis.
Oct. 21.—National Convention, at Chicago, Ill.

☞ In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

Pure Italian Queens and Colonies

For Sale for 1879.

—o—

The best is the cheapest at any price. Circular sent free. Address, D. A. PIKE, Box 19, Smithsburg, Washington Co., Md. 2-5

EXTRA EARLY QUEENS,

Bred from prolific Pure Italian Mothers, will be ready to ship in March, 1879. Also, all kinds of apiarian supplies made and sold at the most reasonable prices. Correspondence solicited.

J. W. WINDER,

" *GULF OF MEXICO APIARIES,*"

1t Terre Bonne, Louisiana.

☞ A club for the BEE JOURNAL may be sent all to one post office or to as many post offices as there are names in the club.

IF YOU WANT

Supplies for the Apiary, send for our price-list before making your purchases for 1879. If you want

Comb Foundation of Best Quality,

and for **less money** than heretofore, send for our price-list and learn how 'tis done. We sell **GLASS** for honey-boxes,

Tin Separators, Bee-Smokers, Honey Extractors, Wax Extractors, Honey Knives, Prize Boxes, Sections, Bee Hives, Comb Foundation,

and many other things, all at **astonishingly low prices.**

Italian Queens, Nucleus Colonies and Full Colonies ot Italian Bees,

of the CHOICEST STOCK in the country, will be furnished in any quantity, at the lowest living prices.

Our CIRCULAR contains much valuable information, and tells you the **best methods** of introducing queens, artificial swarming, how to secure the

MOST SURPLUS HONEY,

and how to obtain the HIGHEST PRICE for the same. Our arrangements are such that we shall be

HEADQUARTERS

for apiarian supplies during 1879. If you have any doubts on this point, just send us your name on a postal card, and our circular will be forthcoming, showing you how to SAVE MONEY in buying supplies

Our Motto: The Best Goods at the Lowest Prices.

Address, **HERBERT A. BURCH,**
1-tf South Haven, Mich,

LOOK HERE!

HART'S

High-Pressure Bee-Hive.

It has been said that the Langstroth Improved was the coming hive. I wish to say to those interested, that the Improved Langstroth has come and been here, patented in 1868, and again improved and patented in 1872. I will not say as some have said in advertising, that it is the best hive ever offered to the public, for I have never seen all the hives offered, but am vain enough to think, in offering my hive to the public, that it possesses more advantages at less cost than any other hive made public, leaving it to be decided by good judges, and if I should come out second best, shall be willing to be called late to dinner—*quite a sacrifice*. Will state some of the points: 1st. It is double and triple walled, side opening, fast or loose bottom; adjustable portico and honey boards can be used in single or two story; long brood chamber or compounded, and can be adjusted so as to conform to the size of a swarm, from a nucleus up to a mammoth swarm of 12,000 cubic inches; can be used exclusively for surplus comb honey, or extracted; for building up colonics or a non-swarmer, etc.

Any person wishing to know more of the advantages of the hive, send 25 cents in stamps, and receive pamphlet of fifty pages, giving full description of hive and workings, with much more useful matter for beginners. I will simply say that I will dispose of territory at very low figures, or if honey gets much cheaper, I think I will *give it away*. In the meantime would like to correspond with those manufacturing hives in any part of the United States, to make and sell on a royalty or otherwise. A. H. HART.

Appleton Wis., January 27, 1879. 2-3

GREGORY'S
SEED
CATALOGUE

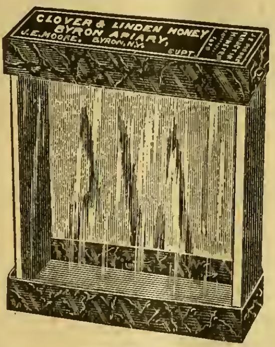
My annual Catalogue of Vegetable and Flower Seed for 1879, rich in engravings, from original photographs, will be sent free to all who apply. Customers of last season need not write for it. I offer one of the largest collections of vegetable seed ever sent out by any seed house in America, a large portion of which were grown on my six seed farms. Printed directions for cultivation on each package. All seed warranted to be both fresh and true to name; so far, that should it prove otherwise, I will refill the order gratis. The original introducer of the Hubbard Squash, Phinney's Melon, Marblehead Cabbages, Mexican Corn, and scores of other vegetables. I invite the patronage of all who are anxious to have their seed directly from the grower, fresh, true and of the very best strain. **New vegetables a specialty.**

JAMES J. H. GREGORY,
Marblehead, Mass.
12—5t

J. E. MOORE'S PERFECTION HONEY BOX.

Patented May 7th, 1878.

CIRCULARS FREE,
Address, BYRON APIARY,



J. E. MOORE, SUP'T,
BYRON, N. Y.

Bees!---1879.---Bees!

Full Colonies, Nuclei and Queens Cheap. Supplies furnished. Satisfaction guaranteed. Write for particulars. S. D. McLEAN & SON, Culleoka, Maury Co., Tenn. 2-7

1865.— **THE** —1879.

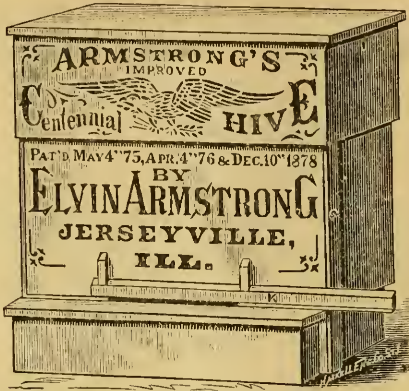
HONEY
HOUSE.

C. O. PERRINE, 54 & 56 Michigan Av., Chicago.

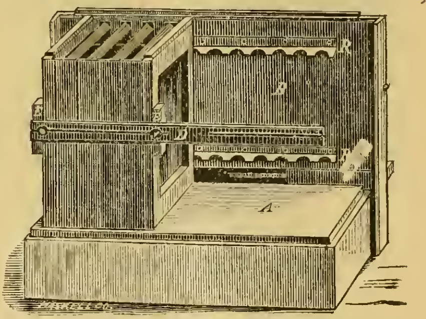
As a Manufacturer of

COMB FOUNDATION,

I can say my goods have given entire and universal satisfaction. The ruling low prices were made by me, and any one desiring any considerable quantity would do well to consult me before buying elsewhere.
☞ Market price for Beeswax.



This Hive has many valuable improvements not found in other Hives. The new clamping-bar D, and jaws E, E, are the best arrangement for clamping brood-frames together now in use. The Racks, R, R, for holding the front ends of brood-frames so they can be turned aside for inspection, or removed without disturbing the surplus sections on top, is a feature found in no other hive. Bees winter well in them on their summer stands, when properly packed with chaff. They give entire satisfaction wherever used. F. C. Frost, of Plattsburg, Mo., bought 57 of them last spring, and says he is so well pleased with them that he will want 100 more this spring.



They have become a great favorite with many practical bee-keepers throughout the country.

SCALE OF PRICES.

1 Sample Hive and individual right..............$8 00

Complete Hives.

In lots of 6, each	$3 50
" " 12, "	3 40
" " 25, "	3 30
" " 50, "	3 20
" " 75, "	3 10
" " 100, "	3 00

Material, Cut ready to Nail—Everything furnished except Nails and Glass.

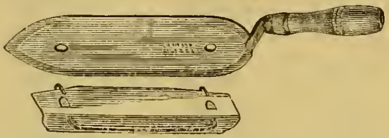
In lots of 6, each	$2 25
" " 12, "	2 20
" " 25, "	2 15
" " 50, "	2 10
" " 100. "	2 00

My new 24 page pamphlet sent free to all.

Address, ELVIN ARMSTRONG,
Jerseyville, Illinois.

Bingham & Hetherington

HONEY KNIVES!



Are used plain, if the combs are held upright, and with the cap-catcher, if laid on a table. They are not *like any other* honey knife ever made. They are superior in finish and temper, and do much more and better work. *No one can afford to be without one.* Plain, $1.00; with movable cap-catcher, $1.25. Send for Circular for dozen rates for Knives and Bingham Smokers to BINGHAM & HETHERINGTON,
Abronia, Allegan Co., Mich.

Below is one of the many letters received:

Cherry Valley, N. Y., Jan. 5, 1879.

Messrs. Bingham & Hetherington: Dear Sirs:—I received the knives all right, and on account of their *superiority* feel that *you* and *bee-keepers* as well are *entitled* to a *report*. I much prefer it to any knife I ever uncapped with, for the reason that I can *uncap much more* honey. But a *better* test is in the hands of three or four of my men, who used them for several consecutive days, and, without *exception*, pronounced them the best knives I owned. One went so far as to insist that he could uncap *one-third faster* than with any other knife, and when uncapping piece boxes, he *demonstrated* it. You may send me one half dozen of them. J. E. HETHERINGTON.

Bee-Keepers' Supplies!

I shall continue to sell, at reasonable rates, a large variety of Bee-Keepers' Supplies, such as

MUTH'S ALL-METAL HONEY EXTRACTOR,

UNCAPPING KNIVES,

WAX EXTRACTORS,

LANGSTROTH BEE HIVES,

SECTIONAL BOXES,

SQUARE GLASS HONEY JARS,

to hold one and two pounds each, with Corks, Tinfoil, Caps and Labels, ½ lb. Tumblers, Glass Fruit Jars, &c.

COMB FOUNDATION,

BEESWAX, GLOVES, VEILS, STRAW MATS, ALSIKE CLOVER SEED,

as well as a great assortment of Garden and Field Seeds, &c. For further particulars address,

CHAS. F. MUTH,

2-tf 976 and 978 Central Ave., Cincinnati, Ohio.

L'APICULTEUR. is the title of the French Monthly Journal devoted to bee-culture, edited and published by Mons. H. Hamet, Rue Monge 59, Paris. Price 7 francs.

1879. 1879.

REV. A. SALISBURY & HAYES,

CAMARGO, ILL.,

Breeders of Pure Italian Bees and Queens, from Imported and Home-Bred Mothers, and Manufacturers of Hives, Prize Boxes, Comb Foundation, and all general Apiarian Supplies.

BEES.

Reserved and Early Tested Queens	$3 00
Queens, July to September	2 50
Colonies of 10 frames	9 00
" 12 "	10 00
Nucleus, 1 frame	4 00
Comb Foundation, 10 lbs. or over, per lb	50

Wax cleaned and worked for 25c. per lb., or on one-half shares.

☞ Send for Circular. 2-7

SECTIONS! SECTIONS!!

Before ordering Sections, send 3c. stamp for sample of our snow-white poplar-wood section boxes, so much admired at the National Convention. Any size made to order. Price greatly reduced.

☞Circulars free. A. E. MANUM,
Bristol, Addison Co., Vermont.

ITALIAN QUEENS,

1879.

Price, April, May and June	each,	$3 00
" July, August and September	"	2 00

STANDARD OF PURITY.

All Queens guaranteed to be of good size, vigorons and producing workers large and uniformly marked with three distinct yellow bands, of fine golden color. No Circulars. [2-tf] A. F. MOON, Rome, Ga.

ITALIAN NUCLEI.

Strong 4 frame Nucleus, in new hives, all complete, for	$5 00
Two frame nucleus	2 50

All Queens reared in full colonies, from a choice Imported Mother. HIRAM ROOP,
2-tf Carson City, Montcalm Co., Mich.

Hives and Section Boxes.

Material for Langstroth Hives, with 9 Frames and 6 Cases for sections, in the flat	$1 00
Sample Hive, in the flat	1 25
Dovetail Section Boxes, any size under 6x6.in., in lots of 500	3 50
" " 1,000	6 50

Prize Boxes ready to nail at same prices. Send for Circular and Price-List. W. D. PARKER, Manufacturer, Defiance, Ohio. 2-5

2,000,999 Strawberry, Raspberry, Blackberry, Currant, Grape Vines, Asparagus Roots, Peach Trees.

100 SELECTED VARIETIES.

Genuine Stock. Quality best. Prices lowest. Send for free Catalogue to JONH S. COLLINS, Moorestown, N.J.

HEAD-QUARTERS!

We wish thus early, to inform our friends and patrons that we are in the field and

READY FOR BUSINESS!

For the Season of 1879 we shall be the HEADQUARTERS for Langstroth and Modest Hives, Prize Boxes, Separators, and all the necessaries in the bee-keeping line. As we are just a LITTLE AHEAD of ALL COMPETITORS in producing a fine article of COMB FOUNDATION, we shall lead the trade!

Make a note of these points, and write for our NEW PRICE LIST.

J. OATMAN & SONS,
Dundee, Kane Co., Ill.

THE VOICE OF MASONRY AND FAMILY MAGAZINE FOR 1878.

Will be edited as heretofore; will contain 960 pages of Masonic and Family Literature: will be finely illustrated, and will furnish a greater variety of articles from a greater number of contributors than has appeared in any preceeding volume. No proper efforts will be spared in making it, beyond question, the most attractive and valuable volume of a Masonic and literary magazine ever published. Published monthly, at $3.00 per annum, in advance. Single copy, 30 cents. Address JOHN W. BROWN, Publisher, room 12, 182 S. Clark St., Chicago, Ill.

GEORGE GRIMM,

OF

JEFFERSON, WISCONSIN,

hereby respectfully gives notice to the public. that his Circular and Price-List of Italian Bees for the year 1878-9, is ready, and that he is selling at his usual *low* prices. 10-6

1879.--H. ALLEY'S--1879.

Circular and Price-List.

Our Circular, containing information valuable to any bee-keeper, will be ready in December, and sent free to all applicants. It will tell you about Italian and Cyprian bees, one-dollar queens, the Massachusetts bee-hive, section boxes, comb foundation, bellows smokers, how to introduce queens, and in fact will tell you something about almost everything used about the apiary.

I shall use white poplar wood for our section boxes in future. This wood makes the neatest cap in use. Send 3c. stamp for sample. H. ALLEY,
12-tf Wenham, Essex Co., Mass.

AT REDUCED RATES!

1879—Early Italian Queens.—1879.

Imported and home-bred Queens, Nucleus Colonies, Full Colonies. For quality and purity, my stock of Italians cannot be excelled by any in America.

If you want the best Movable-Comb Bee-Hives, suited to the Southern climate, Honey Extractors, Bee-Veils, Smokers, Feeders, Gloves, or Bee-fixtures of any kind, send for my new Circular. Address,
1-6 Dr. J. P. H. BROWN. Augusta, Ga.

J. E. MOORE'S

Perfection Honey Box.

(Patented May 7, 1878.)

Made to fit any sized Sections. Circulars mailed on application.

BYRON APIARY,
8-tf J. E. MOORE, Supt., Byron, Gen. Co., N. Y.

In the Market again with 100 Colonies of

ITALIAN BEES,

with young, fertilized Queens, less than 60 days old, at $5.00 per Colony. We shall continue to rear Queens through the season as usual.

Tested Queens, per dozen	$25 00
Untested Queens, "	10 00

Safe arrival guaranteed. Address,

D. STAPLES & SON, Columbia Apiary,
1-6 *Columbia, Tenn.*

BEFORE PURCHASING

Supplies for your Apiary, send a postal card with your name (and if you will do us the kindness, those of bee-keeping neighbors) for our illustrated circular of Apiarist's Supplies, of every description; sample Sectional Box, and Comb Foundation made on the

Dunham Foundation

machine, which is the latest improvement in that line. We wish to place these samples before

EVERY READER

of this JOURNAL, and hence offer them **FREE.** Just send your name at once. Special attention given to rearing Italian Queens and Bees.

☞ We have secured the general agency of the above machine.

The highest price paid for Beeswax.
1-tf J. C. & H. P. SAYLES, Hartford, Wis.

Foundation Machines.

12 inches wide	$40 00
9 inches wide	30 00
6 inches wide	25 00

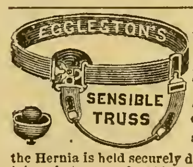
Every machine warranted. On receipt of 10 cents, I will send a sample of the foundation made by the machine.
12-tf JOHN BOURGMEYER, Fond du Lac, Wis.

SPERRY & CHANDLER'S

NORTH STAR HIVE.

There are now over 1,000 of these Hives in use in different parts of the United States, and wherever tried they are pronounced the best Hives before the public for all general and special purposes. We are now prepared to promptly fill all orders for the North Star, or Improved Langstroth, with our patent Manipulating Side. Samples of surplus honey taken from the North Star, as also our hives in use, may be seen at the American Bee Journal office. Send for illustrated circular—correspondence solicited.

Address SPERRY & CHANDLER,
974 W. Madison Street,
Or AMERICAN BEE JOURNAL, Chicago, Ill. 8-tf



THIS NEW

ELASTIC TRUSS

Has a Pad differing from all others, is cup-shape, with Self-Adjusting Ball in center, adapts itself to all positions of the body, while the BALL in the cup PRESSES BACK the INTESTINES JUST AS A PERSON WOULD WITH THE FINGER. With light pressure the Hernia is held securely day and night, and a radical cure certain. It is easy, durable and cheap. Sent by mail. Circulars free.

Eggleston Truss Co., Chicago, Ill.,
8y1

CHEAP HIVES!

Material, planed on both sides, for a one-story, 8-frame Langstroth, movable-frame hive, with 7-inch cap, including all of material for a complete hive, prepared ready to nail, for 50 cents each.

Nailed and finished complete, 75 cents.

Other sizes proportionally low.

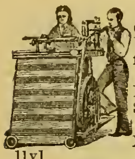
We have improved machinery, specially adapted to this manufacture, and are able to get out a No. 1 hive at these low prices. (THEY ARE NOT POOR BECAUSE CHEAP.) We will also give a liberal discount from these prices on orders of 25 or more at a time. Dove-tailed honey and section boxes VERY CHEAP.

☞ Send for Price-List.

LEWIS & PARKS,

successors to G. B. LEWIS,

12-m6 Watertown, Wis.



JOYFUL News for Boys and Girls! Young and Old!! A NEW INVENTION just patented for them, for Home use! Fret and Scroll Sawing, Turning, Boring, Drilling, Grinding, Polishing, Screw Cutting. Price $5 to $50.

Send Stamp and address

EPHRAIM BROWN, Lowell, Mass.

11y1

Baker & Co. DESIGNERS AND PHOTO ENGRAVERS ON WOOD.

COR. CLARK & MONROE STS. CHICAGO.

DEALERS IN ENGRAVING TOOLS & ENGRAVERS OUTFITS.

ORDERS BY MAIL SOLICITED.

The Western Stock Journal

AND FARMER!

CEDAR RAPIDS, IOWA.

The only Stock Journal published west of the Mississippi, and the leading agricultural paper of Iowa. Only $1.50 per year; in clubs of five, $1.25 each; in clubs of ten or more, $1.00 each.

☞ Sample copy free. 1-2

NELLIS' FLORAL INSTRUCTOR

An elegant illustrated quarterly, devoted to gardening in all its branches, containing a complete list of Seeds, Plants, Bulbs, &c., at reduced prices, also much information. 10c. per year; sample copy and packet of Bee Seed for 3c. Seeds for Bee-keepers a specialty. (1-2) A. C. NELLIS, Canajoharie, N. Y.

BINGHAM'S

Bellows Smoker!

(Patented January, 1878.)

Nothing used in an apiary so valuable, so cheap, so handy and essential to success.

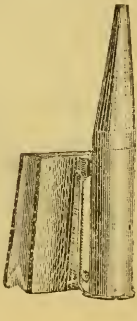
Burns any sound, dry wood, and will last ten years.

Extra Large size	..2½ inch,	$1 75
The Standard "	..2¼ "	1 50
Small "	..1¾ "	1 00

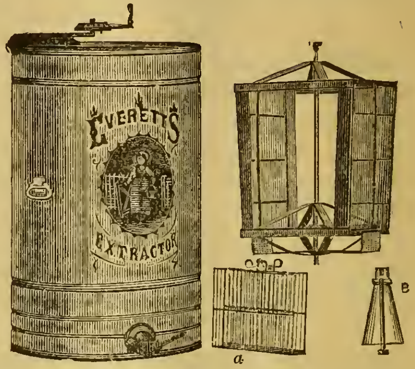
Manufactured only by the inventor

T. F. BINGHAM,

Allegan Co., Abronia, Mich.



Everett's Honey Extractor,



has been wonderfully improved. I have especially improved my gear, fully doubling its strength, and having brass patterns, I will warrant every machine to run perfect; have made several other valuable improvements which will be illustrated in my new circular. "Sent free to all."

The Everett Extractor, with its late improvements, took the highest Award of Merit at the National Convention, or American Institute Fair, New York, 1878. The judges were chosen from practical Bee-Keepers, members of the National Convention,

☞In ordering please state the size of frame used.

For 2 frames, 12x20 inches or less............	$10.00
For 4 frames, 12x20 inches or less..............	14.00

The little extra comb-basket(*a*)"so highly prized by all," will accompany each Extractor. Each Extractor has room for 60 to 100 lbs honey below the comb basket. B. O. EVERETT, Toledo, Ohio.

Langstroth Bee-Hives,

Prize Honey Boxes and Section Boxes, or Boxes of all kinds, cut, ready to nail, as cheap as the cheapest, material and work taken into consideration.

Address, R. R. MURPHY,

12-2 Garden Plain, Whiteside Co., Ill.

VICK'S FLORAL GUIDE

A beautiful work of 100 Pages. One Colored Flower Plate, and 300 Illustrations, with Descriptions of the best Flowers and Vegetables, and how to grow them. All for a FIVE CENT STAMP. In English or German.

The Flower and Vegetable Garden, 175 pages, Six Colored Plates and many hundred Engravings. For 50 cents in paper covers; $1.00 in elegant cloth. In German of English.

Vick's Illustrated Monthly Magazine—32 Pages, a Colored Plate in every number, and many fine Engravings. Price $1.25 a year; Five copies for $5.00. Specimen numbers sent for 10 cents.

Vick's Seeds are the best in the world. Send FIVE CENT STAMP for a Floral Guide, containing List and Prices, and plenty of information. Address,

2-3 JAMES VICK, Rochester, N. Y.

ITALIAN BEES FOR 1879.

This is my 13th year with Italians. I will sell pure tested Queens for $3.00, till July 1st. Full Colonies in Langstroth hives, $10 to $12.00. Nuclei, with 3 full frames, $6.00. Several leading varieties of Poultry. No dollar or unwarranted queens.

2-tf R. M. ARGO, Louisville, Ky.

"Valentines' Italian Bee-Yard"

ESTABLISHED 1867!

Send for new Price-List of Imported and Home-Bred Queens, Comb Foundation, Hives, Section Boxes, Extractors and Bee-Keepers' Supplies. Also, high-class Poultry. Queen-breeding a specialty. First Premiums awarded us at St. Louis Exposition for 1879, on best Italian Bees and Honey.

VALENTINE & SON,
1-6 *CARLINVILLE, ILL.*

Winter Bee-Hive!

9,100 NOW IN USE. *Unparalleled Success* as a Winter Protector. The CHEAPEST HIVE offered for sale.

Our Improved Honey Extractor $6 00
" " Wax " 3 50

☞ All styles of Sections very low.

Write your name on a postal card and address W. B. H. Manufactory, Kendallville, Ind., and you will receive valuable information. 1-tf

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Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send you a sample copy of our

Monthly Gleanings in Bee-Culture,

with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Artificial Comb, Section Honey Boxes**, all books and journals, and everything pertaining to Bee Culture. *Nothing patented.* Simply send your address on a postal card, *written plainly*, to A. I. ROOT, Medina, O.

WM. W. CARY,

COLERAINE, FRANKLIN CO., MASS.

Thirteen years experience in propagating Queens, direct from the best district in Italy. Persons purchasing

QUEENS or SWARMS,

from me will get what they bargain for. Send for circulars. tf

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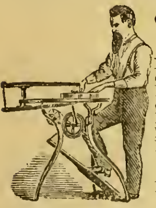
BARNES' PATENT

Foot-Power Machinery



CIRCULAR and SCROLL SAWS

Hand, Circular Rip Saws for general heavy and light ripping. Lathes, &c. These machines are especially adapted to **Hive Making**. It will pay every bee-keeper to send for our 48 page Illustrated Catalogue.

W. F. & JOHN BARNES,
Rockford, Winnebago Co., Ill.
junely

Italian Queen Bees

FOR 1879.

I shall breed Italian Queens for the coming season, from imported mothers of undoubted purity. Safe arrival and purity guaranteed in every shipment. Prices very low. Circulars sent free. Address,

D. P. MYERS,
aply1 West Salem, Wayne Co., Ohio.

For 75 Cents,

I will send Bee-Keepers' Magazine for 1879, Post-paid.

Smokers, Bee-Keepers' Text-Book, Cook's Manual, and Apiarian Supplies, at regular prices.

2-5 E. H. WYNKOOP, Catskill, Greene Co., N. Y.

Bee Hives.

LANGSTROTH
AND
MODEST,

Single or Double Story.

Oatman's No. 2 and 3 Honey Boxes, Section Frames,

ITALIAN QUEENS,

&c., at bottom rates.

See advertisement in the March number of the AMERICAN BEE JOURNAL.

J. OATMAN & SONS,
5-tf Dundee, Kane Co., Ill.

BEE-KEEPERS' GUIDE.

A 20-Column Paper, published Monthly by the
WINTER BEE-HIVE MANUFACTORY
KENDALLVILLE, IND,

Subscription, **50** Cents a year; **25** Cents a year to every Bee-Keeper who will send us the address of all the Bee-Keepers in his vicinity, or 3 months FREE to every Bee-Keeper who will send us his address. The above offer is for names of persons only who have never received the paper. 1-tf

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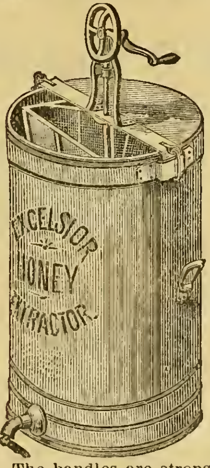
COFFINBERRY'S

Excelsior Honey Extractor.



This Extactor takes any size of frame smaller than 12x20. Larger sizes will be made to order if required. For extracting 4 frames at one time, add $2.00

It is made entirely of metal, and is the best Honey Extractor in the market. It is light, but has attachments for fastening down to a platform. It can be instantly taken to pieces for cleaning, having no screws to take out, nor heavy pieces to lift.

Some of its advantages are as follows: The lower end of the comb basket shaft does *not* revolve in the honey below, even when 60 or 70 lbs. may be there!

The Comb Basket having vertical sides, insures the extracting power alike for top and bottom of frames.

An over-motion and strong gearing is essential to both *ease* of operation and *effective* work.

The handles are strong and attached near the centre, for ease in carrying.

The tin covers close the machine up tightly, keeping it free from dust and dirt when not in use.

It is provided with a small comb-holder for extracting pieces of comb or partly-filled sections.

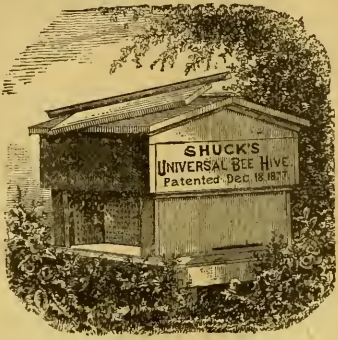
It has a strainer elevated some three inches above the bottom of the extractor, and entirely covering the canal leading to the honey-gate. This "strainer" can be instantly removed, cleaned and replaced.

The honey receptacle has capacity for 60 or 70 lbs. of honey, where it may be allowed to ripen before drawing off, if desired.

THE EXCELSIOR HONEY EXTRACTOR combines all the advantages of other Extractors, and is the *cheapest* thoroughly practical machine ever yet made.

PRICE, $12.00.

SHUCK'S UNIVERSAL BEE HIVE!



Claims the Attention of every one engaged or interested in Bees.

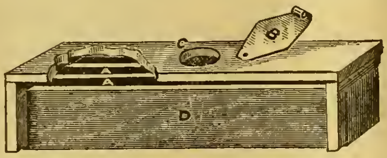
THE HIVE

Is devised by a practical bee-keeper for PROFITABLE use ; double walls, with either dead air space or chaff packing ; inside walls are porous, allowing all moisture to escape from the brood chamber, keeping it perfectly dry, sweet and wholesome, even with unsealed stores ; both sides are removable ; frames hung upon metal supports on the top of the end walls (not in rabbets) and are easily handled ; brood chamber large or small, as desired, and may be as complete with one frame as with a dozen ; space for 96 pounds surplus honey within six inches of the brood nest. No colony need be lost during the winter months in this hive. No melting combs in this hive during the hot weather. Positively

THE BEST HIVE BEFORE THE PUBLIC.

APIARY RIGHTS, $5.00. TERRITORIAL RIGHTS FOR SALE ON EASY TERMS.

SHUCK'S BOSS BEE FEEDER,



Patented June 11, 1878.

Removes all the obstacles in the way of feeding, by its simplicity, cheapness, and its adaptability to the purposes required. It is to be placed at the entrance outside the hive, and supplied with sugar syrup, or syrup and flour any time in the day, without annoyance from bees, either to the bee-keeper or the colony being fed ; no bees can reach the food except from the inside of the hive. Every bee-keeper appreciates the advantage of feeding to supply short stores for the colony, or to stimulate and encourage breeding, previous to an expected flow of honey.

Prof. A. J. Cook says : "I think very highly of your feeder, and only find fault with the price."

G. M. Doolittle says : "You are just a shouting when you say, 'I trust my Boss Bee Feeder will please you.' It is the best bee-feeder I ever saw, in ease of feeding, simplicity and for general use. When I see a good thing I like to say so. It is worth no less because it is patented."

D. D. Palmer says : "I received your Boss Bee Feeder and would say of it, that I like it better than any I ever saw ; in fact, it seems to be all that could be desired. It is all you claim for it, being so convenient to get at, and being so readily filled without disturbing the bees or being to the trouble of taking off the cover."

SAMPLE, BY MAIL, 30 CENTS.

Address, J. M. SHUCK,
DES MOINES, IOWA.

MASSACHUSETTS AGRICULTURAL COLLEGE

THE AMERICAN BEE JOURNAL

Devoted Exclusively to Bee Culture.

VOL. XV. CHICAGO, ILLINOIS, MARCH, 1879. NO. 3.

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Editor's Table.

☞ Wisdom says, procure hives and boxes for the next season, now,

☞ In the New York and Minnesota Legislatures, bills have been introduced against the adulterations of sweets, and many State Legislatures have passed resolutions instructing their Members of Congress to use their influence in favor of enacting a United States law against general adulteration.

☞ Mr. A. F. Moon reports that he has tried comb foundation made upon tin-foil, and it has been a success. We have received a sample of it, but think it would be rather heavy. Still Mr. M., says that he has frames, two-thirds filled with it, that now have brood, and sagging is out of the question. Inventive genius is at work.

CLEANSING COMBS.—The dysentery has been quite severe, in some sections, during the past winter, and many inquiries similar to the following from "W. M.," have been received:

> What is the best plan of cleansing combs on which bees have died of dysentery? Will it be safe to use them for other colonies?

The fecal matter found on the combs is soluble in water. They may be cleansed by washing, using a soft cloth or sponge. If placed in a very damp place for a while, or out in a light rain, it will assist the cleansing operation. The disease is not contagious, and there need be no fear of using the combs again.

Past—Present—Future.

The American Bee Journal is now in its fifteenth year. For a little less than one-half of that time it was under the management of our distinguished predecessor—the late Mr. Samuel Wagner. During his life though he was nearly three-score-and-ten years of age when the Journal sprung into life, it achieved an enviable reputation. To his ripe scholarship, sagacity, wisdom, and varied information pertaining to the theory and practice of scientific bee culture, must be attributed the influence, and position which the Bee Journal attained! This character was maintained for nearly three years by his son, Mr. George S. Wagner, and the Rev. W. F. Clarke.

For over five years we have endeavored to retain its former influence, improve its typographical appearance and enlarge its capacity, until now the number of its pages are nearly doubled, while its matter is more than double in quantity, and yet the price has been reduced 25 per cent.

If we may give any credence to the opinions of its patrons, many of whom have taken every number since it was started, it, to-day, stands without a rival, not only in the quality of its matter, for all the prominent apiarists contribute their best thoughts and practical hints to its pages—but also as to the number of its readers and patrons.

Flattering as this may be to its friends, it is alike discouraging to its competitors. One of these, in its last issue, without provocation, and wholly prompted by its jealousy, publishes several unkind remarks and spiteful insinuations about the Journal and its managers.

We shall always cheerfully answer arguments, and reply to gentlemanly queries, but we will not lower the standard of The American Bee Journal enough to reply to calumny and malignity. We shall not give the benefit of our large circulation to such persons, by repeating their unmanly attacks in order to refute them. Such being born in jealousy and reared in malignity, may die in obscurity, for aught we care. Having given no cause for such attacks, we shall not turn from our legitimate work long enough to notice them!

Instead of marring our pages with personal strife and petty controversy, we shall pursue a steady and undeviating course—laboring to make The American Bee Journal the best exponent of the science and art of bee culture.

This being the course we intend to pursue in the future, our correspondents are also requested to omit all personal controversy. Use strong arguments, give battle to false theories, pour red-hot "shot and shell" into the strongholds of error and corruption, but shun personal bickerings and unmanly assaults. Thus shall The American Bee Journal "go on from conquering to conquer"—driving false theories and antiquated notions from the theory and practice of bee culture, substituting in their place, scientific methods and modern practice.

CCNDENSE YOUR ARTICLES.—All want to have their articles and letters appear in the Bee Journal, and we are glad to have them feel so, but really we cannot find room if they persist in writing such long ones. So many subjects of vital importance are now up for discussion and *both sides* must be heard, that if the writers do not condense, we are obliged to do it for them. We have had to use the "pruning knife" pretty freely in this issue, and have been compelled to omit the "Convention" department entirely, to give place to correspondents who have been waiting to be heard for several months. We are glad that so much interest is manifested, and hope *all* will be patient with us, for we are doing the very best we can to accommodate them. Had we a hundred pages this month, we could have filled them full of interesting matter. Therefore, friends, be admonished; "boil down" your thoughts, and condense your articles till they appear like "apples of gold in pictures of silver."

☞ We have received a sample of what all will say is *thin* comb-foundation, when we state that it is 18 square feet to the pound. It is too thin for anything but to show just what can be done by the new flat-bottomed-cell machines. Mr. Van Deusen says he has three of the machines all fixed to run by water or steam power successfully. It is beautifully made and is really "as pretty as a picture."

New Arrivals at our Museum.

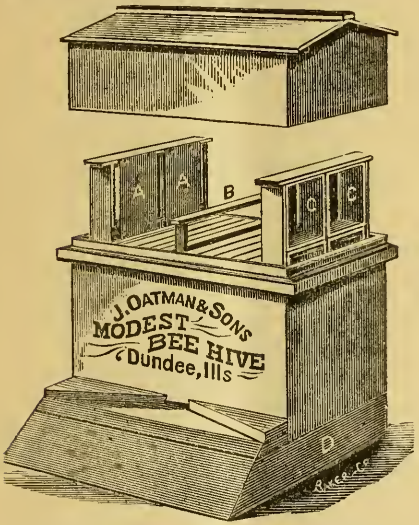
We have quite a number to notice, and so will make a chapter of it.

CALDWELL'S HIVE REGISTER.

This tells at a glance what the bees are doing. It consists of a card 5½x7 inches to put on the side of the hive and pins may be put into it to indicate anything desired to be remembered. For description see page 122.

OATMAN'S MODEST HIVE.

This has been improved and a sample of the new hive has arrived at our Museum. The accompaning cut shows its form and style. It uses the Gallup frames (B), with side-storing cases (A, C.)—and either another story with 7 cases, each to hold 3 prize boxes, or a comb honey rack, as seen on the last page of the cover of this JOURNAL. It is very similar to the hive used by Mr. G. M. Doolittle and Prof. Cook.



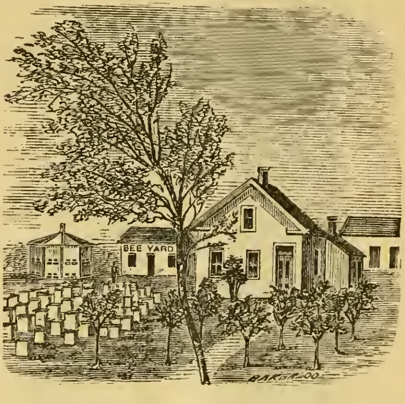
DIRECT-DRAFT, COLD-BLAST SMOKER.

Mr. Bingham has sent us a sample of his Smoker as he makes it for the coming season. He calls it the "Bingham direct-draft, cold-blast combination." Mr. Corey, of California, has suggested that cold smoke is more soothing in its effects on the bees, than that ordinarily produced by a blast through the fire in the Smoker. We very much doubt if any one can tell the difference, however, as it cools so quickly. We have tried it and an ordinary one side by side, and three persons, blindfolded, sometimes selected the smoke from one as the hottest, and sometimes the other, when the smoke was blown into their faces from each smoker alternately. If there should prove to be any advantage in the idea, Mr. Bingham has adapted it to his smoker, in an excellent manner, giving a lining to the stove, where most exposed to the heat, thus adding to its durability.

The smoker, we are glad to notice, has been strengthened, and improved in all its parts. It is a pleasure to note that whatever improvements the smoker may undergo Bingham maintains its "standard of excellence."

VALENTINES' ITALIAN BEE YARD.

Vanlentine & Son, of Carlinville, Ill., have gotten up a wood cut of their residence and bee yard, which our readers will be interested in viewing. The cut shows a house apiary to the left and a honey house in the center. They are breeders of Italian bees and high-class Poultry.

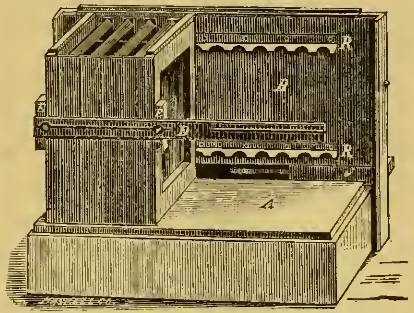


LITHOGRAPH OF DAVIS' BEE YARD.

This is a nice view of Mr. W. J. Davis' residence and bee-yard, at Youngsville, Pa. It makes a very attractive appearance, and its owner ought to be "a happy man."

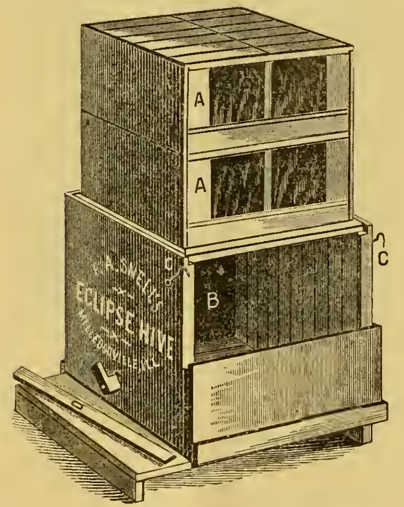
ARMSTRONG'S CENTENNIAL HIVE.

This has been improved and a new sample is received at the Museum. It is the Huber type of hive, and is illustrated on page 140. The following cut shows how it may be contracted to 3 or more frames. It is provided with a comb honey rack, containing 18 prize boxes, with separators. The back and sides come off in one piece to admit of manipulation.



F. A. SNELL'S ECLIPSE HIVE.

This hive contains 10 American frames, 12x12 inches, and can be used for a one or two story hive as desired.

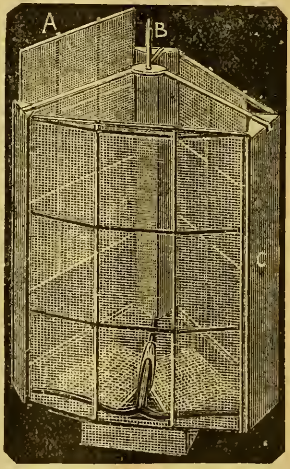

A
A
B
C
F. A. SNELL'S ECLIPSE HIVE MILLEDGEVILLE ILL.

The cut shows the manipulating side which may be fastened with hooks (C) and two tiers of boxed frames for comb honey. It does not contemplate the use of separators, that are now thought to be indispensable. Mr. Snell gives the following description of it:

"The above cut gives a view of the Eclipse Bee Hive, with movable side removed from lower story, and the body of the second story removed, giving a view of the boxes, which are held in a neat case having a movable glass side, which facilitates greatly the removal of boxes when filled with honey, and also affords an easy way of telling when the boxes are filled, ready to be taken off."

TRIANGULAR COMB BASKET.

This is an arrangement to admit three frames, instead of two or four, in an extractor, and was gotten up by Messrs. Wagner & Bourne, of Chicago. Mr. Coffinberry has made arrangements to use it in the Excelsior Extractor, and now, it is furnished with a comb-basket for either two or three frames at the same price. It has no center rod running through it, and the sides of the basket (A) are movable, and can be taken out and replaced instantly.



MISCELLANEOUS.

D. S. Given, Hoopeston, Ill., has sent us a bee feeder made out of an old oyster can. Being easily made, and costing nothing, they are certainly worth all they cost.

W. O. Carpenter, Lawrence, Kan., has sent us his Combination Bee Feeder. It is adapted for hives having a honey board over the combs with a 7 inch cap. The holes of the feeder correspond with the center hole of the honey board, and just admit the trade size of the quinine bottle for liquid food, and the box holds a sufficient quantity of candy as dry food.

I. C. & H. P. Sales have sent us a sample of the Dunham Comb Foundation. The machine makes very thin bases to the cells and high side walls. The sample sent is a very good article, and quite a credit to the inventor—a woman !

Mr. C. G. Ferris, of Mohawk, N. Y., has sent us a smoker made with a Bingham bellows, and the Quinby tube,fastenings to the bellows and valve. There is no *new* principle about it.

We have some queen cages, &c., but must defer their notice till our next issue, for want of room.

☞ Mr. G. M. Doolittle has sent in nearly 300 subscriptions for the BEE JOURNAL for 1879—the largest club yet.

"THE BLESSED BEES," that interesting work by John Allen, is kept for sale at this office, and will be sent postpaid for $1.00.

☞ We have ordered some of the finest queens to be obtained in Italy, and expect to be able to fill orders in May for them. Price, $5.00. Selected ones $6.00.

☞ A petition against adulteration of food, with several thousands of signatures has been forwarded to Congress from Chicago, but unless there be an extra Session, we fear it will be of no use for this year.

☞ From the last number of *Gleanings* we conclude that Novice will soon place himself in line against the use of glucose. The *Bee-Keepers' Magazine* is out squarely against its use, and we feel sure that within a short time *Gleanings* will be on that side too.

MR. D. D. PALMER again advertises his Sweet Home Raspberry in this number of the JOURNAL, and has issued a nice colored fruit plate of it. The raspberry is an excellent honey-producer and Mr. Palmer has a very choice "variety" of it, which he calls the "Sweet Home."

☞ The Fourth Edition of Prof. Cook's "Manual of the Apiary" will be published about April 1st. This is recognized as the standard work on apiculture and is meeting with a large sale. We have received orders for it not only from England, but also France and Germany.

☞ Where is the Bee-Keepers' *Exchange* for January ? Has it not yet made its appearance ?

☞ Many catalogues have been issued this year for the sale of apiarian supplies—but prices fluctuate so much that they cannot take the place of advertisements in the BEE JOURNAL.

☞ Honey is the natural food for bees. If you have disposed of all your crop and need more for feeding this spring, we can supply it by the barrel or can.

☞ Reports are coming in confirming our fears, as expressed last month, that there would be great loss of bees in wintering. Those unprotected, are especially depleted. Dysentery has played great havoc in many Northern States.

☞ Since the publication of our explanation entitled "Facts are stubborn things," on page 87, we have had considerable correspondence with the officers of the N. W. Ohio Convention and Mr. Everett ; the result is a satisfactory adjustment of the affair —Mr. E., withdrawing his claim to having it published that he took the award *over* all the others not entered for competition.

The cause of the difficulty was from a misinterpretation of the facts for want of "more light." The action of the Convention and the delay of sending the Report, when fully explained, does not appear as it did to us, at that time. The Secretary it seems was absent from his home, and it was forwarded to him for his signature, the snow blockade causing some of the delay. The Convention (as complaints were made) could do no other than appoint a committee to investigate. The publication of this in the minutes was unnecessary and calculated to do harm, but as neither Mr. Everett nor the Convention had authorized this, they were not reponsible for it. We are now satisfied that they had nothing to do with the "secret scheming" mentioned by our correspondent. Nearly all the members of that Convention are friends of the A. B. J., and of course we did not intend to reflect on them, or any one else. We simply tried to present the facts to prove that there was no cause for ill-feeling. We hope the withdrawal of the objectionable clause by Mr. E., will end such feeling on *all* sides ; it certainly does with us.

Another Large Export of Honey.

The New York *Times* of February 3d, contained a lengthy article, copied from the London (England) *Times*, of January 14, 1879, from which we copy the following :

"The difficulty of exporting these delicate pieces of comb without the loss of a great part of the shipment by breakage has hitherto prevented the growth of what might doubtless be a lucrative business. During four years Messrs. H. K. & F. B. Thurber & Co., of New York, have tried to get this comb honey to England in good condition, but without success. The want of proper machinery for unloading the ships, seems to have been the principal cause of the damage. Let down "with a run" by a sling from the yard-arm, the glass boxes and their fragile waxen contents were again and again broken and spoiled. In November last, however, Mr. W. M. Hoge, the manager of the firm, succeeding in landing a consignment of 80 tons in Liverpool, and encouraged by the result of the venture, he, on Thursday, landed at the London Wharf, in Wapping, a lot of about 100 tons, brought over in the California, one of the Anchor Line of steam-ships. There are 2,500 cases in this shipment, containing over 200,000 pounds of honey, and few boxes have sustained any injury in transit. Taught by past experience, Mr. Hoge had his cases securely boarded up between bulkheads on the steamer, and in unloading employed gangs of men to pass the cases hand over hand down the ship's side into the lighter, and from the lighter on to the wharf.

"The importance which bee-keeping has assumed as a regular branch of industry in the United States may be conceived when it is stated that over 35,000,000 pounds of honey are there produced and sold annually. The tendency in this, as in other occupations, has been for the trade to be carried on by persons having large capital. The bee-keepers have frequently from 2,300 to 5,000 colonies of bees, and some far larger numbers. Messrs. Thurber & Co., for instance, have about 12,000 colonies of bees. Of course, it is only by a thorough organization that such large numbers of these little workers, who toil without pay, can be looked after and cared for. The system in the United States is to farm out the colonies. Arrangements are made with farmers and those who own orchards in suitable localities to allow an apiary of perhaps a 100 colonies to be placed on their grounds. At a distance of three or four miles another apiary will be placed with some other farmer. For this accommodation either a fixed rent or a share of the honey produced is paid, and the bee-owner sends expert workmen to clean the hives, to take out the boxes of surplus honey as they are filled, and to destroy the moths, grubs, and other creatures that take advantage of the bees' frugality. As showing the lucrative character of this business, it is said that a firm of shippers paid to one bee-keeper for his season's crop of honey a sum larger than the salary of the President of the United States. It is estimated that on an average one acre will support 25 colonies of bees, and, as the yield of a colony is generally about 50 pounds of honey, it is evident that this trade may yet be greatly developed. Already the firm above mentioned, in addition to a corps of experienced bee men to tend the hives, find occupation for nine men and two steam saws during the five weeks of the year in cutting up the timber for 72,000 boxes used to hold the comb honey. The glass makers also find some cutsom from the honey dealers, 144,000 panes of glass being required to make the slides and ends of these boxes."

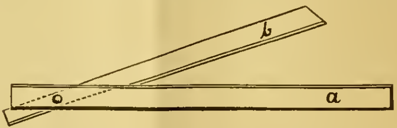
The London *Times* is evidently mistaken. Messrs. Thurber & Co., are large dealers in honey, but we have never heard it even whispered in this country that they are large producers. However, we are exceedingly glad to hear that they have succeeded in transporting to London one hundred tons of comb honey, in good condition. Exporting will be the salvation of honey producers in America, and hence we record this shipment with much pleasure and hope it may prove a lucrative thing for Messrs. Thurber & Co.

◆

TO FASTEN WIRED FOUNDATION IN FRAMES.—Shear about ¼ inch wax from the wire, leaving it thus ¬; put foundation in frame as usual and glue the naked wire to the wood; this fastens the wire and prevents sagging.

To leave the wire imbedded in the wax whether, rubbed down or glued, allows the wire to pull through the wax and is not reliable. The object of using wire is to have a substance that can be solidly fastened to the frames, to support the foundation. If not properly fastened it is liable to the same objection as other foundation.

To shear off the wax from the wire, screw a strip of pine or other soft wood to the edge of the board or brush, lay the foundation on the same, letting it project ¼ inch; then hold the light strip on the foundation, wet the shear to keep the wax from sticking and press down.



a—Edge of table ; *b*—Shear.

Foreign Notes.

A Letter from Dr. Dzierzon.

The following letter will be read with interest :

Carlsmarckt, Jan. 22, 1879.

MR. NEWMAN ; DEAR SIR.—You have for some time had the kindness to send me the AMERICAN BEE JOURNAL, but I have not derived as much pleasure from reading it as I should, had I been more proficient in the English language. I have, however, examined with interest the many very excellent articles and illustrations, which it contained.

I wish now to inform the readers of your axcellent JOURNAL concerning an article of comb-foundation, which is lined with thin wood, and made by Mr. O. Von Corswant, in Grieswald, on which he is trying to secure a patent, from the Imperial Patent Office in Berlin.

Mr. Otto Schultz, of Buckow, who has for years, been experimenting in order to get the partition walls for comb, has sent a petition asking the Commissioner not to grant the patent. The Commissioner has referred the matter to me. I told him that Mr. Schultz was not right. The patent on his invention could not be granted because some parties from Frankenthal, Bavaria, and Mr. Frankendorf, in Switzland, had applied for patents on similar inventions.

It cannot be denied that great credit is due to Mr. O. Von Corswant, for improving the invention of Mr. Otto Schultz. The central walls which the latter makes are of wax, and when it is built out, it is not superior to natural comb ; but Mr. O. Von Corswant has hit upon the lucky idea of putting thin wood in the center, covering with wax on both sides, and then having the cells built out on it. In this way the comb will be stronger, making it almost impossible to break it, but formerly, while extracting, combs often broke to pieces. Of course, these central walls will be put in such places where the honey is to be stored, and where the extractor is to be used.

Mr. Otto Schultz will find ready sale for his invention ; his comb being very good, even should the patent be granted to Mr. O. Von Corswant, which may be already done. I thought it my duty to speak well of the invention of Mr. O. Von Corswant in my letter to the patent office. I am indeed, exceedingly pleased to be able to do a favor for a citizen of the town which gave the delegations to the Bee Congress such a welcome, last September.

I am yours, very truly, DZIERZON.

Le Malmaison, Aisne, France, Jan. 21, 1879.

DEAR EDITOR :—If the AMERICAN BEE JOURNAL is valued and welcomed in the United States of America—it is even more welcome in Europe. We have no journal that can compare with it. It is with great impatience that I await its arrival, and it is welcomed here most cordially. I remain your obedient servant,

L'ABBE L. DUBOIS.

Foreign Items.

GLEANED BY FRANK BENTON.

IN the December number of *L'Apicoltore* (Milan, Italy) are copied four articles from the AMERICAN BEE JOURNAL.

AN OLD LINDEN TREE.—"On the Kocher, in Wirtemberg, there stands near Neustadt a linden tree which is now 680 years old. Its branches reach out so as to cover a space having a circumference of 400 feet, and in 1871 they had 106 supports. More than twenty generations have passed away during its existence. Thousands have been born and buried whilst the tree which their ancestors planted puts forth new leaves and blossoms each spring."

"L'APICOLTURA IN ITALIA."—This is the title of an Italian work on apiculture composed by L. Sartori, Professor of apiculture in Milan, and A. de Rauschenfels, of Palermo. It contains 520 pages, with 114 illustrations. I will let an Italian, one of the highest authorities in such matters, Dr. Angelo Dubini, well known through his important apistical publications, speak of the work of his countryman. In *L'Apicoltore*, the journal of the Central Society for the encouragement of apiculture in Italy, Dr. Dubini reviews the work and closes with the following : "We find we have only given a summary instead of an analysis of this classical and immense work ; but this could not be otherwise, even should we so desire, without reproducing the whole book. Italy may be proud of this production by two men so thoroughly informed in reference to the theoretical portion as well as skillful in the practical part of the art of managing bees. We are convinced that foreign apiculturists themselves will be attracted by this Italian publication, which treats of all that is known concerning apiculture and its practical application, and that we will soon see this magnificent work translated."

PREMIUMS AT THE PARIS EXPOSITION.—"It is six weeks since, in an open session, the naming of the awards at the *Exposition Universelle* took place, but *l'Officiel* has not yet published the names of those who receive awards. It is true, there was published on the 21st of October, a list of those mentioned in the announcement referred to, making an octavo volume ; but this list is imperfect. While waiting for *l'Officiel* to enlighten the public, and for the medals to be struck, the names of foreign apiculturists (Class 83) mentioned in the semi-official list are herewith presented :

"*Gold Medals*—Apicultural Society of Milan, Italy ; Society for the Development of Bee-Culture in Bohemia, Austro-Hungary. *Silver Medals*—Abbott, London, England ; G. Neighbour & Sons, London, England; Rudolph Mayerhoeffer, Prague, Austria; Baron of Rothschutz, Posendorf, near Laibach, Austria; Luigi Sartori, Milan, Italy; Pietro Pilati, Bologna, Italy. *Bronze Medals*—F. Crema, Turin, Italy ; Dr, Orazio Martino, Villetta, Italy; Pietro Pilati, Bologna, Italy; Borrissovski, Moscow, Russia ; Freywirth, Riga, Russia."—*L'Apiculteur.*

Correspondence.

For the American Bee Journal.

Can we Compel Bees to Build only Worker Comb?

BY REV. L. L. LANGSTROTH.

Mr. Alfred Neighbour sent me, in 1876, specimens of comb foundation made from German plates purchased by him in 1862. Giving some sheets to a strong nucleus, in the height of the honey harvest, I watched the successive steps by which the bees prepared it for the reception of eggs and honey. It seemed to take them a little time to get into their heads the idea of how to utilize it, and I saw perhaps the first bee, who, having caught this idea, began to put it into practical use. Desirous of comparing the time required to fill a frame with the foundation with that of building new comb, I gave this nucleus an empty frame, which they filled in less time than they occupied in working over the foundation—another illustration that it often costs more to alter an old thing than to make a new one. Hoping that when bees could gather too little to induce them to work in wax, they might profitably thin out the foundation, I experimented further, but only to find that they severely let it alone. In 1875, Mr. "John Long" sent me foundation of his own make. Being then out of the bee business, he sent specimens at my request to W. W. Cary, who showed me one frame of beautiful comb, finished by the bees, which satisfied him that the invention would be very valuable.

Perhaps the very different result of our experiments was owing to the fact that "Long's" foundation was much more perfect than that made upon the German plates.* While I believe that foundation is on the whole a great success, I am far from being convinced that we should rely on it for *all* the comb that we need. Even if this can *now* be profitably done, how long will the price of wax remain so low that we can entirely dispense with the necessity of having our own bees secrete it? Mr. Newman has given, on pages 355 to 357 of the AMERICAN BEE JOURNAL for 1878, some valuable statistics, showing the very small yield of wax in our apiaries compared with that of honey. In some parts of Europe, where wax is in such large demand for the ceremonies of the Greek and Roman Catholic churches, the yield of wax per hive is enormous compared with what is obtained by our improved methods. To get, as is done in Greece, a larger yield of wax than honey, spring pruning of the combs is resorted to, and other rude processes, which, if employed by us, would make bee-keeping quite a losing pursuit. Even if, for many years to come, it shall pay such as can afford it to use a full supply of foundation, how many there are who have not the means to procure it. It is, therefore, a very important question, to know how to manage so as to use a much smaller quantity of foundation than is needed to fill the frames. Now, the chief obstacle to a partial filling of the frames is the disposition of bees, especially the Italians, to fill out the frames when only partially supplied with foundation, with drone comb. If this propensity can be counteracted, without materially interfering with the comb-building instinct, we shall be able to increase or diminish the amount of foundation used in our apiaries. As the tendency of improved bee-culture is to increase the yield of honey and diminish that of wax, the time may not be very far distant when only so small a quantity of foundation can be used, that we shall be almost as much at the will of the bees, in the building of drone comb, as we were before its invention.

In a letter to Mr. Doolittle, I promised to give a plan by which I thought the bees could be compelled to build all worker comb. The following extracts from vol. 1, page 129, of AMERICAN BEE JOURNAL for 1861, will show how I hope to accomplish this:

IMPROVED COLVIN GUIDE FRAMES.

To avail ourselves fully of the movable comb principle, the bees must be compelled to build all their combs not only straight, but of uniform thickness. Every comb will then fit, without trimming, any where in any hive. For more than ten years I have kept this point steadily in view, and after numerous experiments, have become satisfied that bees, if left to themselves, will never construct their combs in the way desired. Even if they make them of uniform thickness, they will wave them more or less to give them greater strength, just as iron is corrugated for the same purpose.

I shall now give a description of a device which I invented some months after Mr. Colvin's, and which, if he should patent his invention, can only be used with his permission. My guides were tried last year with considerable success; and the mode of making them was so improved by the Rev. L. Wheaton, of North Falmouth, (Mass.) that he met with uniform success. I have still further improved and simplified their construction, retaining Mr. Colvin's original principle, but adding to it two very important features, viz: that these guide frames regulate the distance between the comb-frames, and hold them firmly together and "out of wind."

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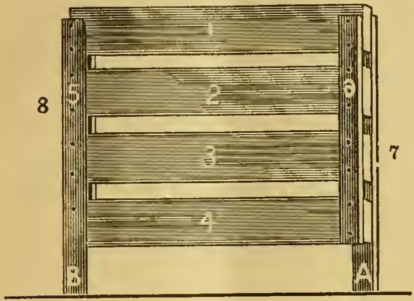
*If I am rightly informed, "Long's" foundation was on the improved plan of Samuel Wagner. At some future time I propose to give the history of Mr. Wagner's experiments with foundation.

The annexed is a perspective view of one of these guides, and the dimensions are intended to suit the size of hive and comb-frames given in the third edition of my work on the Hive and Honey Bee.



1, 2, 3 and 4 are slats, each 17⅜ inches long, by 1¾ inches wide, and ⅛ inch thick. 5 and 7 are each 8¼ inches long, by ½ inch wide, and ¼ inch thick. 6 and 8 are each 7⅜ inches long, by ½ in. wide and ¼ in. thick. In nailing, the slats are put between 5 and 7, and 6 and 8, the bottom slat coming flush with the lower ends of 6 and 8, and the top slat projecting ⅜ in. above the top ends ot the uprights 5, 7 and 6, 8. The spaces between the slats are each ⅜ inch wide.

Thin nails (cigar box nails are best) ¾ inch long, are driven as shown in the cut, so as to fasten the slats between the uprights, and slightly clinched by nailing upon an iron surface. The lower ends of 5 and 7 (A and B) extend below the ends of 6 and 8, and form legs which rest on the bottom board of the hive. These legs are on opposite sides of the guide-frame, so as not to interfere with the bradding of the comb-frames as described in the last No. of the BEE JOURNAL.*

Mode of using them: Put the first comb-frame ¼ inch from the farther side of the hive, crowding a wad of paper or cotton between the top of the frame—where it rests on the rabbet—and the side of the hive to keep the frame in place. Now put in, as close as possible, a guide-frame; then another comb-frame, &c., until the hive has 9 comb and 8 guide-frames. The last guide-frame may be slightly bradded to the last comb-frame, so that the two can be lifted out together. It will be well to put one frame with brood into the hive (see page 115 of my work), before hiving a swarm, as the bees are more liable to desert such a hive, not knowing that their owner intends to remove the partitions between their combs.

It may be asked—Can we interfere so much with the bees, and yet not diminish the amount of comb built or honey gathered? This question can be more satisfactorily answered, after the guides have been tried, by many observers, under the varying circumstances of different seasons and locations. Enough, however, has been done to make complete success highly probable; and if the final result justifies our expectations, the Improved Colvin Guide Frames will be second in importance only to the movable comb principle.

Since the swarming season began, I have used a number of these sets of guide-frames, and find that they answer admirably the ends intended—the combs being built, to use the words of a friend describing the results in his apiary, "as perfectly as a joiner could work with square and compass." Although the bees are sometimes inclined to abandon a hive containing such guides, they do not, after fairly beginning to work, seem to be at all incommoded by them; and the guides, not interfering with the storage of honey in the surplus boxes, may be left in the hive until those boxes are removed.

To prevent the bees from leaving, the guides may be inserted three or four days after hiving the swarm; by which time, they will have too much invested in comb, eggs and honey, to be willing to go off. If, however, the hive is placed as recomended in the July number, and the wings of the queen clipped, the guides may be used without any other precautions. Since writing that article, I have had several swarms attempt to leave; but in each instance the bees returned, and the queen crawled back to her hive. * * * L. L. LANGSTROTH.

Now, although these guide frames, or patterns, as I prefer to call them, were a great success with black bees, they proved an entire failure with the Italians. Many swarms deserted again and again, and while I could always prevent the loss of the queen by confining her in a cage; I could seldom persuade the Italians to work with any vigor. They would often sulk for days, building next to no comb,* and when they worked more freely, they preferred to build upon the sharp edges of the slats of the patterns instead of on the triangular wooden comb guides, and I abandoned the patterns in disgust.

The invention of foundation, as it seems to me, puts a new face on the matter. By using a good strip of foundation upon each frame, and one frame filled with brood, I think that the Italians would quickly reconcile themselves to the patterns.

The connection between these patterns and the compelling bees to build drone comb only, remains to be shown. Last September, as soon as I regained my health sufficiently to take any interest in bees, I began a course of experiments to see whether bees could be compelled to build worker comb only between the patterns. As they were not getting sufficient natural supplies to induce them to build new combs, the colonies were plentifully fed. Some frames with starters of foundation were given to them, being placed between the patterns. These were filled out with new comb, every cell of which was of worker size. Some frames more than two-thirds filled with foundation were given, but without being placed between the patterns, and quite a large number of drone cells were built. While these experiments were not made upon a sufficient scale to fully settle the question that bees will always take kindly to frames placed between patterns, if furnished with artificial comb foundation starters, they strongly point that way, and seem very nearly to prove that bees will never build any but worker combs between such patterns.

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*In that description, as well as this, the hive is supposed to be placed before the reader, with the portico on his left hand and the leg B of the guide comb on his left hand also. Eight guide-frames form a set, and where a number are made with proper facilities, a set need not cost over 25 cents, and can be used year after year.

*Other remarkable instances can be given where Italian bees refuse to do as the blacks have done, under precisely similar circumstances.

It is evident that they have no room to build between the patterns drone cells of the proper depth, and they seem unwilling to build cells with drone diameter, unless they can also give them the drone depth. Mr. Robert Bickford recommends, in the Journal, this plan for making bees build only worker comb, and gives the same distances between the patterns (which he thought might be made of wire-cloth) as I gave many years before for the wooden ones. He does not seem to have been aware that the device had been used for securing straight combs, and that the wire-cloth patterns were first suggested by Mr. Nesbit. Wooden patterns are far cheaper, and every way more desirable. Made in the way I gave in 1861, they will always retain their proper shape. Some of my old ones were used last summer as playthings by my grand children, and after being left out for months in the sun, rain and dew, were as true as when first nailed together. The time spent in putting them in and taking them out is small when compared with their advantages—and not as great as what must be spent on any other plan to secure perfectly straight combs—to say nothing of the vexations experienced in trying to prevent the bees from building drone combs, or in utilizing them after they are built.

It is a curious fact, that I cannot remember that I ever associated the patterns with the building of worker combs only. As far as I know, the merit connecting the two ideas belongs to Mr. Bickford. Is this another instance of "building better than he knew?"

Oxford, O., January, 1879.

For the American Bee Journal.

Two Old Books on Bee Culture.

BY PROF. A. J. COOK.

I have just read with much interest and pleasure what I suppose were among the first American books treating of apiculture. The earliest by James Thatcher, M. D., Plymouth, Mass., entitled "Management of Bees," published in 1829. The other, by Jerome S. C. Smith, M. D., "Essay on the Honey Bee," appeared in 1831. This last was the first book on apiculture owned and read by Mr. Langstroth; the other was the first valuable work possessed by this greatest American apiarist. The style of both books is admirable; the spirit greatly to be admired; while not the least interesting part, is that which shows how many of the leading facts of apiculture were well known even sixty years ago.

The preface of Thatcher's work is copied *verbatim*, without credit, by E. Townley, in his book on bees. This is suggestive in view of the fact that Townley was one of those who deposed that he *anticipated* Mr. Langstroth in the invention of the movable frame hive.

This work of Thatcher's in style, accuracy, and the real scientific ability displayed, is superior to many modern works. The author seems well acquainted with the works of Huber, Huisch, Schirach, Reim, Bonnet, etc. The use of pollen, the function and development of the queen, the fact of fertile workers, are all accurately given. He tells how to stop robbing, speaks of various bee plants, and praises mignonette, as long in bloom, rich in nectar, and as furnishing superior honey. By experiment, he found that worker bees would fast five days, then die, while the queen would live a little longer. He also proved that bees would build comb with no food but honey. He said cells are always same size (?) and that the edge of the comb is always towards the entrance. (?) He found that giving room was not enough to always prevent swarming, and repeats the old stereotyped error that the queen leads in swarming, and that young bees at once repair to the field to gather stores. Light is made of the ringing of bells, etc., to detain absconding swarms, and the applying of nostrums to make the hive agreeable to the bees. Detailed methods are given for uniting, driving, and making artificial colonies. He states that large colonies, good and sufficient stores and uniform temperature, are the requisites to safe wintering, and even recommends the packing system. He cautions against over-stocking, and shows that worker larvæ can be developed into queens. He gives humorous accounts of people who would not traffic in bees, as such a course would entail poverty for life. The serious havoc made by moths is so vividly depicted, that the reader thinks gratefully of our Italians and improved hives, that permit the keeping of none but strong colonies.

Frequent references are made to the *North American Review*, *American Quarterly Review*, and the *New England Farmer*, and Mrs. Mary Griffith, a lady apiarist, of New Jersey, who invented an improved hive, is referred to in the most flattering terms; and her writings in the *North American Review* are quoted at length. Her methods are praised as the very best, while her hive, which had inclined sides and bottom-board, with holes through the top for storing in boxes above, is mentioned as superior to all others, though the author had a hive of his own, which consisted of drawers one above another, etc.

Dr. Smith, the author of the other book, was a quarantine officer, and lived on an island four miles from the main land, which his bees freely visited. The facts he narrates were chiefly gleaned from his own experiments. His claims are very modest, while his references to Thatcher and Mrs. Griffith, display a spirit which is worthy of imitation.

He believes the queen a myth, the workers females, and says that in swarming the old bees drive the young ones hence, which, with plenty of room, they would never do.

He says that bees are sources of pleasure and profit, and thinks that they deserve better than to be put "in some poverty-stricken bee-shed, nailed to the gloomy side of an old barn;" also speaks of "hives hawked about by peddlers with no claim to respectful attention," which custom, unfortunately, did not die with his time.

He speaks of blowing smoke with a bellows, praises catnip as an excellent honey plant; kept his bees in a glass globe, so as to observe them; noticed that brood was often destroyed and carried out; and by marking the bees with whitewash, by use of a brush, he found that some bees were confined to the hive, while others went abroad.

It is pleasant to know that there was so much of intelligence and wisdom among these old-time bee-keepers, and that so much of our knowledge has come down from the early part of the century.

Lansing, Mich., Jan. 17, 1879.

For the American Bee Journal.

Adulteration Again.

BY R. M. ARGO.

You did quite right to warn all from the practice of feeding glucose to bees; so have I, but we must award all praise to Mr. Dadant for his untiring industry in that direction. I have for years been aware of the fact that comb honey could be adulterated but thought it best not to tell how, for fear some might be dishonest. To adulterate a geniune pure and healthy article of diet with any unhealthy article known to be injurious, is dishonest. I can see it in no other light. Nor do I think ignorance of the unhealthiness of the article fed to the bees is any excuse; for what right has any one to adulterate, the purest and best of all—if I may not say the only—natural sweet in the world? If you

FEED BEES

on any sort of sugar syrup, they will put it in the combs. This may be done in October when they have not honey enough to winter on. But if you feed the same article in May and June, and you will adulterate the honey, both comb and extracted, for what you extract will contain a great portion of what you fed; if the bees are filling boxes at the time, a good portion of it will be stored there! But there is this difference, comb honey can never be adulterated to half the extent that extracted honey can be, from the fact that bees will reject the most poisonous portions of any fed to them, and with nothing but instinct as a guide they will never do one-tenth of the evil that fallen man, with reason as a guide, will.

I have never been able to get bees to accept molasses or syrups from a grocery. Is not this the surest proof of adulteration of such articles? Yet people are constantly loading their stomachs with what bees will not touch! I have fed bees frequently, but always in the fall, and then if I had not the honey I used the very best granulated sugar syrup. I have also by way of experiment fed a little of the same in a profuse flow of honey, to see if bees would notice it. Not a bee would touch it. They will not touch any thing but honey when such is plenty. I repeated this experiment one night during a flow of honey by laying a small plate of sugar syrup at the entrance of a strong colony, touching the bees, and about two-thirds or more of the syrup still remained on the plate next morning. But the question is

WHO IS TO BLAME

for adulterated comb-honey? I say, emphatically, *man*, not the bees; they are innocent.

Bees would gather all their sweets, from nature but for man, who puts unnatural and artificial sweets in their way, and then they only follow their instinct in gathering it up. But they do not gather it all up. If any one would take the trouble to look in the bottom of the feed pan they would see a good many small particles of ingredients that the bees reject.

I am of the opinion that those who feed glucose do so either just before or after a flow of honey from nature, for I do not believe the bees would take it in the midst of a flow of honey. If they do it at the close of the season, it is done in order to fill out the boxes that were unfinished and unsealed. It were a thousand times better to use such, as I do, to winter weak colonies or extract the honey, rather than to adulterate it; but if you will have them filled out, use pure extracted honey for the purpose. I never do so from the fact that I can sell 100 lbs. of extracted to 5 lbs. of comb honey, even at same price, at home.

TESTED QUEENS.

Let "dollar queens" go. I shall only sell tested queens as usual. I, as a breeder, agree with Prof. Cook, in his Manual of the Apiary, that a tested queen is richly worth $5.00; breeders have come down to as low as $3.00, but it hardly pays for the trouble.

Lowell, Ky.

For the American Bee Journal.

Another Bee Enemy—The Bee Mole.

BY DR. J. W. GREENE.

Mr. Editor.—I herein send you a specimen for your museum. I know nothing at all about it except what I learn from an inteligent bee-keeping friend of mine—Mr. Lemon, of Utica, Mo.

This diminutive stranger is introduced to me as a "Bee Mole." My friend gave me some facts concerning its habits that may or may not be new and interesting.

The size of this animal is 2½ inches long, 1 inch wide and ¼ inch thick. Its general appearance is much that of a common ground mole; its covering being that of the very finest of downy fur of mouse color. Its general shape is somewhat of a flying squirrel while its nose or snout is of extraordinary length. Its eyes are invisible to the natural eye, but as brilliant as diamonds under a magnifying glass. This is said to be a full grown animal, weighing just 50 grains, requiring 115 to the pound troy, or about 154 to the avoirdupois pound.

Mr. Lemon tells me this animal is one of the worst of enemies to the bee, a single one being able to destroy a colony of bees in a few weeks. And he further assures me that the mole can go anywhere where a drone or large worker can, having power to lengthen and flatten itself to almost any desired shape—its natural shape and appearance being like that of a cockroach.

The bee mole makes passways through snow as the common ground mole does through the ground, only much faster. He says: It is quite common to see the bee mole on top of the snow, when it knows it is observed it rolls itself into a ball not larger than a small thimble. In this condition it will sometimes permit quite a near approach. I would not be much surprised to learn that it is a species of the ant eater. Is it this, or is it not the mice that are sometimes mentioned by our writers on bee-ology? I have myself seen our common house mice very destructive to bees, nesting and breeding in the hive until the bees and combs both were all destroyed.

HOW MY BEES WERE PREPARED FOR THE WINTER.

I have this winter packed my bees in prairie hay in the following manner: I have my apiary in a light high enclosure 100 feet long and 60 feet wide. I set my bees within 6 inches of the fence on the west side, one hive on another 2 and 3 tiers deep. I packed hay 6 inches deep under the hives, behind them and filled all spaces between them. I left the caps on the top tiers filling them also with hay. The whole thing is covered and must be kept perfectly dry. But the entire front of every hive is exposed facing the east. I made winter passages through every comb by boring an inch hole in one side of the hive and running a sharp pointed tough hickory smooth stick, clear through, after it was too late to repair the damage to comb. I left no ventilation whatever, excepting the entrance contracted to 2 inches by ¼ of an inch. Some of my hives, however, have entire entrance open.

Now, let some one tell me *in advance* how my bees will come through the winter. They all had at least 30 lbs. of sealed honey to the colony. I am wintering a number of nuclei in one room of my dental office.

Chillicothe, Mo.

For the American Bee Journal.

Description of Winter Bee House.

BY W. G. WALTON.

I think my bee house for wintering is the most complete, practical and convenient that I have yet heard of. It is made double in the ordinary way, leaving 2 feet space for packing sides, top and bottom, which I have filled with fine dry chaff and pressed in perfectly tight, so it is frost proof and dry. I have a pit in the center to form a drain to answer for ventilation as well as to carry off the heavy gases (carbonic acid gas) from the bees. I have also a top ventilator to regulate the temperature, and let off the bad air which we can close from the outside on very cold nights. The double doors are placed in the center of the ends. I have a track, of 22 inch gauge, down in the bee yard which runs right up and into the bee house. The cars are made with 4 wheels and long enough to hold 10 hives in a row and 3 rows on each truck, making 30 colonies per each truck, and I have 3 trucks. After having them all loaded up in proper shape to winter, I run in one car; I have 2 little cars inside called transfer track and trucks. So that when I run the truck on them, then I run it over to one side of the house and move it, say 2 feet ahead; this leaves the little transfer trucks clear to place in the center to receive the next car load of bees, which are run to the other side of the house. The third car is run in and left standing in the center on the transfer track; remaining thus until some fine day in winter. I can with one man, run out the 90 colonies, let them have a fly, and run them in again, in about 5 minutes. I can repeat this several times during the winter. I have carried out the bees, on fine days, during the past winters; but never, even when I used to winter in cellars, did I leave my bees in all winter, without letting them have at least three flights during the winter, and have never lost a colony yet in wintering.

I believe the oftener they are out the better, so long as it is warm enough, say 80 or 85° or over; but many times when I had to carry them out, it seemed so large a job that I neglected it and perhaps when I did take them out the best part of the fine day was gone before I got them all out. By this new way, it takes about 5 minutes to take out 90 or 100 colonies and 5 minutes to put them in again, with one man's help, and can always run the cars to the same place, so that the bees will get very little mixed, as the cars can always be placed in the same spot when they go out for a flight.

The whole cost of these trucks is not over what two men's time would be in moving bees in and out 4 or 5 times by hand, and then the bees can be managed so much better. If bee-keepers will adopt this plan of wintering, and see in the fall that each colony is in good order, with queens not over 2½ years old (18 months is better and 5 or 6 months is still better), and enough of honey, not even 1 colony in 100 will be lost in wintering. I have never lost over 1 per cent., counting spring dwindling or spring dying, and I think that there is no more risk in wintering bees than in wintering a sheep or pig.

Hamilton, Ont.

For the American Bee Journal.

Honey Boards and Prize Box Holder.

BY C. H. DIBBERN.

During the past season I adopted the Langstroth hive, prize boxes, comb foundation and all modern improvements. I was very successful, having produced nearly double the amount of surplus honey per hive, that I ever did before. However, I was not entirely satisfied with the hives, as sent out from the factory. The honey boards had very large openings for bees to pass to the boxes. I soon found these objectionable on account of the bees sticking comb to the bottom of the boxes, also gumming it so as to mar its appearance. I at once made up my mind that we had not reached perfection, as long as bees were allowed to touch the out-side of the boxes.

After a good deal of study, I hit on the following: Take 5 slats ½x1¾x24 in. for the middle slats of honey board running them lengthwise of hive; two pieces 2¾x½x24in. for out-side, then take two pieces ½x1 long for ends. Nail through these into the ends of the longer slats, leaving ⅜ in. between the slats for bees to pass through. Now nail on top of honey board thus made, one of D. D. Palmer's, section holders, described in July number, AMERICAN BEE JOURNAL, and you have an arrangement that is hard to beat. The center piece of the holder should be nailed to every slat on honey board so as to stiffen them. I have also modified the holder using 5 slats across the hive instead of 3, as Mr. Palmer makes them. This allows the use of single separators instead of running through two or three tiers. I prefer to take off the sections as soon as finished and I dislike to disturb one or two tiers not finished in order to get off a tier that is done. The description here given is for the double portico Langstroth hive. And one with a little ingenuity can readily adapt it to any kind of a hive.

I cannot close this article without insisting that all measurements about a hive must be very exact. It is very annoying when working with the bees to find that things don't fit. It is also very important whatever hive or box is used, that everything is uniform. If two or three kinds of hives and boxes are used, in the same apiary, I think it would save time and money in the long run, to transfer and break up all but one kind.

Milan, Ill.

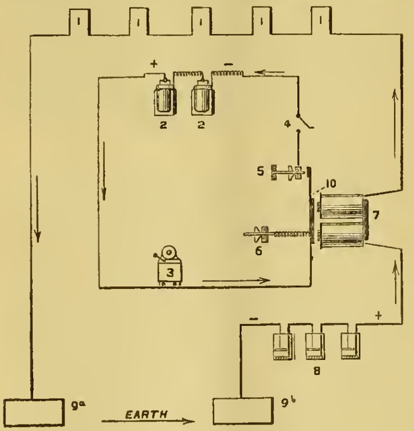
For the American Bee Journal.

Electric Alarm for the Apiary.

BY JNO. Y. DETWILER.

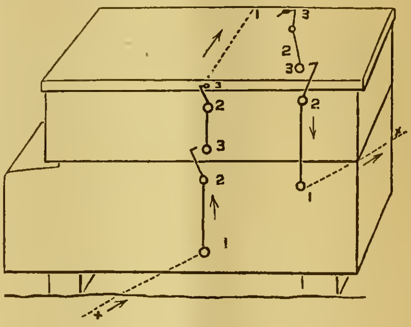
In response to the communication of Mr. F. W. Chapman, of Morrison, Ill., in the January number of JOURNAL, I herewith submit the following sketch and explanation which may be of advantage to him as well as others who wish to protect their apiaries by means of an electric alarm:

In the accompanying sketch, 1, 1, 1, 1, 1, represent the hives.



2 Two jars Leclanche or open circuit battery.
3 Electric bell (continuous ringing).
4 Switch or cut out.
5 Adjustable contact point.
6 Adjustable tension spring.
7 Electro magnet.
8 Gravity or callaud battery.
9a, 9b, Ground wire terminals.
10 Armature in front of electro magnet 7.

Suppose the circuit from battery 8 through magnet 7 is open, by reason of broken connection at hives 1,1,1,1,1. The armature 10 is drawn back against contact-point 5 by tension of spring 6. Cut out 4 is supposed to be closed, which allows the current from local battery 2 to pass through contact point 5, armature 10, bell 3 and back to opposite pole of battery 2 again giving continuous alarm through bell 3 until cut out 4 is opened. Suppose connections through hives 1,1,1,1,1 are closed. The current passing through main battery 8, electro magnet 7 attracting armature 10, passes through connections at hives 1-1-1-1-1 to ground 9a, and thence to main battery 8. When the alarm is not in use, cut out 4 is supposed to be kept open. When 4 is closed, and armature 10 is not attracted by magnet 7, connections in apiary are not properly closed, spring 6 should be adjusted just sufficient to keep armature 10 in contact with point 5 when no current is passing through magnet 7. The attraction of magnet 7 is greater than tension of spring 6 whenever the current is passing through battery 8, which keeps armature 10 from closing circuit through local battery 2 at point 5, until a connection is broken in apiary when 7 ceases to attract 10 and alarm is made through bell 3 and battery 2, until cut out 4 is opened.



Manner of connecting Alarm to the Hive.

1—Broad head, tack or nail to wind wire around and drive home.
2—Hook.
3—Eye.
x—Wire from magnet—course of current.
xx—Wire to next hive.

The probable cost of batteries, bells, &c., for the above closed circuit alarm not including work, would be about $20.00. Though a much cheaper alarm could be constructed by any person having a slight knowledge of electricty, thereby making his own, and substituting an ordinary clock alarm for the local apparatus shown in sketch, releasing the trip wire of alarm by movement of armature 10.

Toledo, O., Jan. 21, 1879.

For the American Bee Journal.

About Queen Rearing, &c.

BY W. P. HENDERSON.

Several years since there was some controversy in the JOURNAL in regard to short lived and unprofitable queens. If I remember correctly (I have not the files before me now), E. Gallup, called them eight day queens, meaning I suppose queens that were reared or produced in eight days. He contended that queens were produced in eight days, and being at that day good authority on many bee questions, it was taken for granted by many who had not thoroughly tested the matter.

With an experience running through a decade or more of years in queen rearing, and in which thousands have been reared, I do not believe a queen from the egg, or grub however advanced, can be or has been produced in eight days. It can't be done in Tennessee.

For the purpose of procuring cells, I have, in May, deprived a populous colony of their queen and on opening the hive on the ninth day, to remove queen cells, was surprised to find a young queen out on the war path, destroying cells, but am satisfied from numerous experiments, that the colony had began to rear a queen, with the intention of swarming or to supersede the old queen, and these cells containing grubs intended for royalty, were two, three or four days advanced in the intended course before I removed the mother queen.

On one occasion I remember opening a hive on the ninth or tenth day after removing the queen and found some of the queen cells torn completely down—others slightly mutilated, while an entrance had been effected in the end of one cell, and the young queen was there with a number of worker bees all intently at work, gnawing and pulling at the queen within. I removed the cell and found that the queen, a nice large one, was almost ready, if not quite so, to make her own way out of the cell, but she was minus one of her feelers, and about half of one of her fore legs. I immediately introduced her to a queenless nucleus, but being so young and weak and on account of the loss of one foot, she did not stick to the combs well, and the bees, although, they did not try to kill her and ball up on her as I have seen them behave towards old queens, seemed to regard her as an unfit occupant of the hive and tried to remove her. I caged her for 24 hours and then released her, but the bees were still not disposed to let her remain undisturbed amongst them. After caging her again for 48 hours, she appeared quite lively, and the workers then treated her with the honors of one of the household. In time she took her marital flight, and afterwards proved herself a prolific and valuable queen, filling her hive two consecutive seasons with brood. Her wings being perfect, the other mutilations did not seem to affect her in the least. And after she commenced to lay, I am satisfied if her wings had been clipped, it would not have affected her future usefulness.

Murfreesboro, Tenn.

For the American Bee Journal.

Are these Queens Pure?

BY S. D. M'LEAN.

On page 314, November number of BEE JOURNAL, Mr. Alley speaks of the progeny of Italian queens and remarks: "The color seems to run all one way, either to the drones, or to the workers and queens." After giving an example of a queen that produced drones as black as any common drones he ever saw, he asks: "Was such a queen impure?" He answers, "by no means, for all her young queens that were fertilized by handsome drones, were as pure as their mother." Now, if the color runs all one way, as Mr. A. says, had the queen produced black workers and queens and light colored drones, then according to the above reasoning, she would have been pure. But would any adept in the science of bee culture have recognized her as such? Certainly not.

But all her young queens that were fertilized by handsome drones were as pure as their mother, and (a priori) those mating with unhandsome drones were impure. Why impure? For if the color runs all one way, and the generally-received Dzierzon theory of parthenogenesis, or agamistical reproduction, be true, then those queens having mated with unhandsome drones (the drones having no sire, would certainly be pure if the queen was pure) should be pure, and should produce as pure bees as those having mated with handsome drones. The whole subject seems to be inexplicable!

But our friend is certainly right when he says, "In rearing queens, those mothers that produce the handsomest workers should be used, and only handsome drones to fertilize them; then can the standard of purity be maintained." But should not our queens, that produce the handsome workers, also produce handsome drones? Our experience with Italians has been such as to justify us in saying they should. We have generally found that queens which produce the best marked workers will give us the nicest drones, and those that produce bad drones generally produce workers that, notwithstanding every bee may have the three bands apparently well marked, yet upon examination the yellow bands of many of the bees will appear to contain minute freckles or mottles which are overlooked by the carelesss observers. The queen progeny of such queens is anything but satisfactory.

Culleoka, Tenn.

For the American Bee Journal

Comb Foundation—A Grand Success.

BY C. R. ISHAM.

I do not think it any exaggeration to assert that pure wax comb foundation is the greatest improvement of the age. When, at the National Convention of 1877, Capt. Hetherington said its use in the brood chamber was "a success," no one present but Mr. Nellis and myself were willing to admit the advisability of its use in boxes for surplus honey (and I must confess that my confidence was somewhat shaken in the face of the overwhelming opposition); but when Mr. Hoge announced that "H. K. & F. B. Thurber & Co., whom he represented, would another season pay the highest market price for honey built upon thin foundation, such as manufactured by Mr. Nellis and Mr. Isham," stored in a certain style of box, etc., I concluded that it would achieve a success equally satisfactory to producer and consumer.

For filling frames I use foundation of pure yellow wax made by a 5-inch machine. By lapping the edges of two pieces cut to requisite length, which properly fastened (by drawing a warm iron along the seam) makes a sheet of the requisite depth. We have put new swarms into hives with every frame filled with such foundation; have used frames filled with it among empty ones, also between frames of natural comb, with the same unvarying success—all worker comb built straight in the frames, and when filled with brood and honey, hardly any more perceptible sagging than is often seen in the upper rows of cells in combs built entirely by the bees.

For surplus honey we use thin foundation, which when made from pure wax of the right quality, the bees draw out to the requisite thinness, filling the boxes much sooner than when natural comb is used for starters. The capping is smooth and more evenly built, causing it to present a finer appearance, a very desirable thing in these times of overstocked markets.

It enables us to place our clover and linden honey in competition with that of large producers, although they may be favored with the balmy breeze of the Sunny South, or the golden clime of California—often exceeding us in quantity, but never in quality! The amber-colored honey gathered from the flowers that during the summer months of June and July whiten the green pastures of the North, succeeded by the light-colored, aromatic nectar, gathered from her numerous linden forests, put to flight any attempt to surpass in quality the productions of our apiaries. This one object, to obtain all the honey we possibly can from these two varieties of flowers, whose yield of nectar is often limited to a few days, will alone, in our estimation, make comb foundation a valuable acquisition to the apiary!

Peoria, Wyoming Co., N. Y.

[If "fine appearance" and "firmly built comb" for safe transportation, were all that should be considered in determining this question, then there could be but one opinion about the desirability of using comb foundation in surplus honey. But is not its production for the "festive board" of consumers of the *most importance?* We have bought and sold considerable comb honey during the past year—some of which was built upon the ordinary comb foundation, and, of course, some was of natural comb; but no *consumer*, having purchased any of the former, would take another box of it; and to our knowledge, some refused to purchase any more honey on account of what they were pleased to call the "wax sheet in the centre."

To us, therefore, it seems that the only question worthy of serious consideration and final decision, is, whether we shall consult the wishes of consumers, so that the demand may steadily increase, or whether the ease and safety of transportation alone shall control the issue. If the former (and therein lies our only hope for success), then the *ordinary* comb foundation must not be used in surplus honey. It is an undeniable fact, that the bees will not always thin out foundation, especially when the nectar is flowing freely!—Ed.]

For the American Bee Journal.

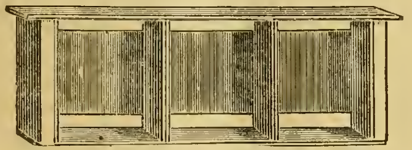
Description of the Hives I use.

BY G. M. DOOLITTLE.

From the numerous letters I get, asking for a description of the hives I use, I think I cannot please the readers of the AMERICAN BEE JOURNAL better than to describe it.

In the first place I have what I call an emergency hive, for use at all times when I do not wish to permanently locate a colony, and for queen rearing. This is simply a box made of inch lumber without bottom or top, 12 inches wide, 12 inches deep and 13½ inches long inside, with front and rear rabbeted for frames. The bottom board is 15½x 18 with 1½x2 scantling nailed to it to keep from warping and to sit on the ground. The top is made like a sugar box cover, to slip over the hive. This holds 9 Gallup frames, or any number less than 9 can be used, in connection with the division boards described in the JOURNAL for Feb.

If I have a swarm come out unexpectedly I put them in this hive till I decide what to do with them, and if while there they build comb it is in the frames just where I want it and not in the top of some old box, as it would be if I used such for that purpose. I also use such hives for rearing queens, and like them much better than a nucleus hive. Next I have the standard Gallup hive, which is a box like the above, only it is 18 inches long, instead 13½; and has a cleat nailed all around ½ inch from the top, for the cap to rest on, which is 8 inches high. The bottom board is the same as for the other, varying in size of course to fit hive. I use, in all my hives, an entrance ⅜ inch high, and as long as the brood chamber, cut from the bottom of the front of the hive, which is enlarged or contracted by means of entrance blocks which are an inch square, of the desired length, and are beveled at one end back 1½ inches, so as to guide the bees to the entrance. I have always preferred this to moving the hive backwards and forwards on the bottom board, as many do. The standard Gallup hive is made to hold 12 frames but I said in the Feb. JOURNAL that I reduced them to 9. This hive I use for box honey, and two or three stories high for extracted honey. When I use it for extracting, I use all 12 frames, seven 3 box, prize cases (see cut), just cover the top, and if the boxes are taken out as fast as filled, a good yield of honey can be obtained from this hive.



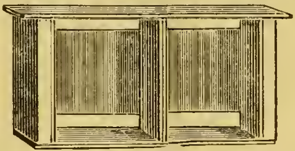
Three-box Prize Case.

I next come to what some feel disposed to call the Doolittle hive, but it is a combination of different principles of hives and sections, with but very little Doolittle about it. However, as I have been successful with it, and believe it to be the principle on which a hive should be made to secure the best results in box honey, no matter what style frame is used, I will give as plain a description of it as I can, and you may call it by what name you choose. In order to make it plain I will give the size and number of pieces contained in a hive by No., and then tell you how to put them together.

Number.	Pieces.	Long in Inches.	Wide in Inches.	Thick.	Number.	Pieces.	Long in Inches.	Wide in Inches.	Thick.
1..	2..	24	x12	x 1	16..	2..	17	x 2⅜	x ⅜
2..	2..	14¼	x12	x ½	17..	2..	14	x 1½	x ¼
3..	2..	25	x 1	x 1	18..	2..	11½	x 4½	x ⅜
4..	2..	16¼	x 1	x ½	19..	4..	4⅝	x 1	x ½
5..	2..	25¼	x 8	x 1	20..	9..	13¼	x 1	x ¼
6..	2..	16½	x 8	x ½	21..	9..	11¼	x ½	x3-16
7..	1..	27	x18	x ½	22..	18..	10¾	x 1	x ¼
8..	1..	25	x20	x 1	23..	15..	12⅛	x 2	x3-16
9..	2..	25	x 3	x 2	24..	15..	11⅜	x 2	x3-16
10..	1..	25	x 5	x 1	25..	30..	6 5-16	x2	x ½
11..	1..	13½	x11½	x ⅜	26..	60..	6¼	x 2	x ⅛
12..	4..	7	x 5	x ⅜	27..	60..	5	x 1¾	x ⅜
13..	2..	12¾	x10¼	x ¼	28..	1 sheet tin		20	x 28
14..	2..	12⅛	x14	x ¼	29..	15 “	“	11¼	x 5
15..	2..	14	x 3	x ⅜	30..	2 “	“	13¾	x2½

Now we will suppose you have all these pieces cut to the dimensions above given and wish to put them together. First, take number 1 which is for sides to brood chamber, and cut on the inside 5 inches from the ends ¼ inch slots or mortices, ¼ inch deep, clear across, for the slotted division board, number 13, to slip into, when the hive is nailed together. Then rabbet out the upper edges between these slots ⅛ inch deep by ⅝ back, for the frames to hang on. Then we cut the entrances ⅜ deep the length of the brood chamber in front board. Next nail number 11 to back board between mortices, and even with bottom and rabbet at top (No. 11 is simply to fill up the space so that the comb will not be built at the ends of the frames). Then nail number 12, on each lower corner, even with bottom mortice and end, for the lower tier of cases to hang on, and the hive is ready to nail together, by nailing number 2 to the ends of number 1. Slip into the slots or mortices, number 13, which should be previously slotted with ¼ slots nearly the whole length of it, so as to correspond with the spaces above the tin separators of the lower side cases, and at the bottom of the upper side-cases, for passage for the bees from the brood chamber to the side boxes. Slip number 13 down, ¼ inch below the top of the hive, and fasten by nailing little ¼ inch square blocks below it in the mortice. Nail number 3 to the outside of the hive, front and rear, ½ inch from the top for the cap to rest on, and then nail number 4 to the ends of number 3 and the hive. Nail number 6 to the ends of number 5 for the cap, getting it square: then nail number 7 on the top, projecting equally on all sides, for the top to the cap. Put on number 28, and turn it down nicely all around, and you have a nice tin-roof, which should be painted white, so as not to draw the heat. The top can be made of narrow strips, just as well as from a whole board.

Now for the bottom board which is number 8 and is to have number 9 nailed to each end, so as to project 5 inches in front and their projection is to be beveled for the alighting board, number 10, so as to make easy access for the bees to the hive. Now the hive is complete, except the frames and surplus arrangement. Numbers 20, 21 and 22 are for the frames (9 in number) which should be nailed together, so as to make them just 10¾x10¾ inside measure. For comb guides we use a strip of wax run on by means of a straight edge, as has been stated in the JOURNAL several times. Numbers 26 and 27 are for the prize boxes, 30 in number. Number 26 is to be nailed to ends of number 27, so as to project ⅛ at each side. Tin tacks (4 in number) are to be driven into the edges of number 27, ⅛ inch from the outside, so that when a 5x6 glass is dropped in, the tins are bent down and all is secured. If you never saw a prize box perhaps you better send to the JOURNL office for a sample, as it costs but little. Numbers 23, 24 and 25 are for 15 two-box cases (see cut) and are to be nailed together so as to be 10⅝x6 5-16 inside measure. Number 29 are tin separators and are to be nailed one on each case, so as to be 21-32 of an inch from the bottom and the top of the cases. Number 24 is to be slotted out ⅛ inch, on each side, to give entrance to the bees. Now we will suppose the hive is made, sitting on the bottom board, with the frames all in their proper place and boxes all in the cases; take number 17 and lay them on each side of the hive, and on the top of the ends of the top bar of the frames, for the cases to rest on, and then put 7 cases on them. Now hang in 2 cases on number 12 at the side, and you can see if your slots come in the right place, that are cut in number 13. We forgot to say that in each case on top, 2 nails are to be driven so as to project ¼ inch. They are to be driven close to the side the tin is nailed on, and the tin is to be away from the slotted division board. Now put 2 more cases on the top of the lower ones, or on the nails, the nails are to keep the cases from crushing bees, and as the cases are to be interchangeable the nails must be on all of them. Set cases in the other side also and place the tins, numbered 30, between the side and top cases, resting their lower edges on the top of the hive.


Two-box Prize Case.

This is to prevent the bees from bridging the combs, at the bottom of the top bars, and the top of the side boxes. Now take number 14, and fit it so that it will go down to within ⅜ of the bottom of the hive, and rest on number 12. Nail number 15 on to it in the center, so as to keep it from warping and slip it between the side cases and the end of hive. Then push number 16 (which are for keys) between number 15 and the end of the hive, and all is keyed up tight, so that the boxes and everything comes just where it should. If you wish but 2 cases at each side, these keys work the other way to just as good advantage. Take number 18 and nail the little cleats, number 19, at each end or within 2 inches of each end, so that they will project 1-16 at each side, and set them up at sides of the top cases. As the cleats are a little longer than the board is wide, the attraction of gravitation will always keep them in place.

If I have made no mistake your hive is now complete and you will probably consider it "an expensive rigging," as did Novice, but I will say that in 1877 I secured from 3 old colonies in the spring, in just such hives, 896 lbs. of box honey. One giving 309 lbs.; another 301 lbs. and the third 286 lbs. The average yield of what hives of this kind I had in use in 1877 was more than 200 lbs. of box honey per colony.

I believe this yield has never been exceeded by any hive in existence. I should not make this statement were it not that Novice claims that his Simplicity hives are the *Ne plus ultra* for all to use.

If you wish to use this as a chaff hive (as many of mine are) cut number 2, 22¼ inches long and let them project 4 inches on each side of number 1. Then get 2 pieces similar to number 1 but only ½ inch thick and nail the number 2 pieces to them, so as to leave 3½ inches between them and number 1. Make the cap and the bottom board to fit, and pack in the front and rear permanently. After the boxes are off pack ends and cap, and you have as good a chaff hive as any one. For winter, I use quilts over the frames and down the ends, over slotted division boards, filling the cap and place for side boxes, with fine straw, whether chaff hives or not.

In conclusion I would say, I know of no hive with which one can secure large results by simply folding his hands and letting the bees work. I wish it understood that large yields of honey can only be secured where there are large numbers of bees in a hive; and securing the bees in time for the honey harvest is one great secret of success. That more bees can be secured by the use of the Gallup frame than any other is only one of our preferences, and we must be excused for preferring this frame in this locality. But whichever style of frame is preferred, the principle for securing box honey as given in this and the February number is certainly correct. Next month I shall commence a series of articles on how I manage an apiary and the above hive.

DIVIDING BEES.

John Fox wants me to tell him "how to divide without empty combs and have the bees build worker and not drone comb." One way would be (if we wished increase instead of honey, as he does) to get queen-cells started by removing the queen from a populous colony (one we wish to breed from) 25 days in advance of the time we wish to make our swarms; then in 10 or 12 days form as many nuclei, lacking one, as we had sealed cells, by taking a frame of hatching brood, bees, &c., from the colony to be divided (being sure not to take the old queen), and putting them in an empty hive, setting it where you wish your new colony to stand. Go back to the same hive and get another frame of bees, but instead of brood, get honey if possible, and set it with the other frame in the nucleus. Contract both hives with a division board, and in 24 hours give the nucleus one of the sealed cells. As soon as the queen in the nucleus commences laying, go to the colony you took the frames from to form the nucleus, and take away all the combs they have, brushing or shaking off all the bees and put in empty frames in their places. Thus you will have the same as a natural swarm, and they will build comb just the same as a natural swarm would; I will not warrant it to be all worker comb, but the greater part of it will be, if your queen is good for anything. Now take the frame of brood you have taken from them, and place them into the nucleus, and you have two good colonies of bees. If you wish farther increase you can treat that which was the nucleus in the same way in a week or so, and so on, as long as the honey season lasts. Of course it will be unnecessary for me to say, never make swarms by any method in a time of scarcity of honey.

Borodino, N. Y., Feb. 12, 1879.

For the American Bee Journal.

A Home Market for Honey.

BY WM. H. S. GROUT.

The state of the honey markets seems to trouble some, but I think with the help of the JOURNAL that I have found the true way to sell honey. Extract all the surplus and then sell it all at home at a rate that the poor can afford to buy. My crop this season has been over 5,000 lbs. and I have sold all I can spare at 10 cents here and feel happy. Previous to this season I have sold occasionally at 15 cents, and sent some to dealers in the cities and sometimes found one that did not pay up, so that on the whole, the sales have not averaged more than 10 cents per pound, and the bother and vexation which amount to something. The honey should be well ripened in the hive before it is extracted, so that the customers can not help being satisfied. Have sold as high as 168 lbs in a day, and attracted by the low price they came from far and near; nearly every day I could have sold as much more, if I had it.

I used 50 pounds of comb-foundation last year, with decided success. It is a great help to apiarists and with its aid one can soon rid his hives of drone comb. It all sagged more or less, but do not see that it was any harm. It is certainly better than natural comb.

A word about hives. I am still firm in the belief that the double "Long Idea" hives are best to use for extracted honey. My frame is 11x13 inches inside and I have used two-story hives almost every season by the side of the long ones, with results uniformly in favor of the long hives by not allowing swarming, and dividing about Aug. 1st.

A correspondent of the JOURNAL lately asserted that honey extracted from the brood combs was not of good flavor. I do not see any difference. I extract from all that will pay for handling.

I notice that Mr. Baldridge criticises Mr. Stephens' yield of wax, in December number. Now judging by my experience, 1 lb. of wax to 100 lbs. of honey is about right.

Poland Center, N. Y.

For the American Bee Journal.

Hives and Wintering Bees.

BY JAMES HEDDON.

In the last JOURNAL, our old friend G. M. Doolittle told us all about hives—that they should contain Gallup frames and boxes on the sides, &c., so that all can have the pleasure of handling them over a few extra times, &c., &c. "Great minds run in the same channel" 'tis said, but they don't this time.

Just allow me to predict that the 8 frame Langstroth hive will be about the only one used by specialists in a few years, where any frame hive is used. Should bees succeed well in wintering, for the next few years, I expect to see the improved box hive come into use quite extensively. We shall see that those Germans are not so foolish yet.

I quite agree with Mr. D., that small hives give the best results, in the hands of the careful bee-keeper. When I said at our State Convention held at Kalamazoo, four or five years ago, that I could get just as much honey *pro rata* from neucleus as from full colonies, some laughed heartily. But that did not change the fact. I have used several kinds of side and top storing hives, but just now I prefer the hive that stores all on top, and I also prefer a long narrow hive. It gives a suitable amount of box room, where I think it should be, and it also has fewer ranges of combs and spaces, which I think to be a great advantage in successful wintering.

Mr. Dibbern very kindly tells us how to make a nailing-block for sections. Now truly, I never could get any advantage out of nailing-blocks, for nailing frames of any kind. The "wind" in them is just what bothers most, and that is what the block does not correct.

I will next month give a description of the Langstroth hive as I use it, also my own peculiar method of applying sections, which is I think, much the simplest and cheapest way. I meant to do it in this article, but I find it will be necessary to illustrate it more or less, to make it intelligible to your readers.

"That bee disease" is again on the "war path," and many apiaries are rotting down with it. I have no doubt but that it is caused by the extremely cold winter and long confinement. The bees have been confined nearly 2½ months up to date, and a few years ago they came through all right, after 4½ months confinement. The extreme cold weather which we had for about two weeks (the rest of the winter has been mild here), was such a dreadful thing, that it too must have had a hand in the death; but it is curious how this zero, could slip into our houses and cellars, making them sick there too, and do it so quietly. The thermometer never knew how old cold was there, quietly reclining at 38° to 42° above zero. Strange, again, the chaff-packed boxes have not got any more respect for their sanguine owners than to let the cholera walk right into them also. But such, Mr. Editor, is the fact.

So little is known about causes, preventatives and cures of this disease, that I thought last fall, that having a goodly number of colonies, I would try and learn something about it by experiment. Accordingly I spent $100. in time and fixtures, and am every day carefully noting effects. I am wintering in eight different ways, and, so far, it looks as though the greatest superiority would in future be, in breeding out this disease. It is not time to whistle yet, as we are not out of the woods. I will give you a detailed account of the results for the June JOURNAL. We shall by that time be pretty well settled in the matter.

Dowagiac, Mich.

For the American Bee Journal.

About "Dollar Queens."

BY J. W. PORTER.

FRIEND NEWMAN.—I know you are down on the dollar queen business, but I also know that you are fair enough to give all sides a hearing on mooted questions.

In your article on page 5, on "untested queens" you quote with apparent approval the statement or confession of a breeder of queens. In that he says: "If a colony be made queenless it will start 15 or 20 queen-cells; but only three to five are ever designed by the bees to be developed into queens." Where is the proof of this?

I have seen seven spring out of as many cells on one comb within a few minutes. In their course of nature the survival of the fittest is provided for by "a slaughter of the innocents," but, is it not true that any one living may be developed into a perfect queen by the removal of the others before hatching. If not, why does Prof. Cook, on page 164, of his excellent Manual, recommend this very plan and tell us we can secure 15 or 20 cells and under conditions "requisite to secure the most superior queens." This plan and this assurance is given by many able and successful apiarists.

And yet Prof. Cook quoted from the "Manual" in the JOURNAL, page 35 as follows: "The tendency of the dollar queen business is to desseminate inferior queens, many of which will appear in every apiary." In your JOURNAL I think some breeders have proved their ability to raise dollar queens and make money.

I am not in the business, but I think it time that such arguments against such queens be dropped, or else the books be revised, and some plan be devised to enable the apiarist to tell which of the 15 or 20 cells started are to be selected. Who is the wise man that can do this? Times have changed and so have prices since dollar queens were first offered. Compared even with the prices of honey, sixty-six cents for queens now, would be as good as a dollar then; and I venture to say, the same ratio would hold good as to other kinds of property.

But have we arrived at that point of perfection in breeding, that we can tell without testing which are the best queens? I think not, and a reference to the debates of our conventions justifies me. And testing, what is that? As I understand it, the breeder simply tests the purity and the fertility before shipping, which takes time and costs trouble. But is there any test of high marked value? We will arrive at a more just and fairer conclusions, if we will look at this matter as it is. Why, in many parts of the country Langstroth hives were sold at $7,00, and since the patent has expired, competition and increased facilities give us just as good or better hives, at one-fourth the money.

What are dollar queens? Men of character advertise to send good queens, reared from imported mothers, warranted to be mated but untested at that price. We will say that 20 are started as Prof. Cook recommends. The breeder's success depends upon fair dealing. If he sends out puny queens, or indeed any, which to the eye are imperfect to any great extent, he will lose his custom. If to the eye it be perfect, what but an extended trial will determine its value? Who can make this trial most cheaply? Then, who most satisfactorily? The breeder can perhaps, do better selling untested at $1.00, than tested at $2.00. But if all are tested, it is not likely that all are of eqnal value. I buying a dollar queen, have a chance to get a better queen at that price than if I paid the higher price.

I speak, Mr. Editor, in behalf of a large class who may be able to, and would buy the cheaper queens and then cross their stock, and who would be deterred by higher prices. But the higher prices do not ensure satisfaction as a reference to the back volumes of AMERICAN BEE JOURNAL will show.

May we not leave this whole subject to be regulated by the laws of trade and nature, which will doubtless decree the survival of the fittest among breeders, as it does among bred?

Charlottesville, Va.

For the American Bee Journal.

Moving Bees in Cold Weather.

BY JOHN R. LEE.

A few years ago I thought the colder the weather the better for moving bees, but since I have had more experience I have come to the conclusion that many colonies are lost by disturbing them in cold weather. They form a close compact cluster to keep warm by animal heat; and any person handling bees on a cold day will notice how easily they chill and drop down when they once leave the cluster.

Two years ago, while living at Oxford, Ohio, the home of Langstroth, a neighbor, having 7 colonies in good condition, with from 30 to 50 lbs. of nice white clover honey each, and strong with bees, sold his house and lot making it necessary to move his apiary. The weather being warm when he moved his household goods, he thought best to leave his bees for a cold day. So in December, when the thermometer was about zero, he loaded them into a spring wagon and moved them 6 miles, and in so doing lost all but one. This led me to conclude that disturbing bees in cold weather causes them to break up the cluster, and if it remains cold for several days thereafter, they are ruined. I am aware that bees will survive after a zero freeze, for I gathered some off of the snow one very cold morning after they had laid out over night, took them into a warm room, and fully one-half of them came to life and flew to the window, but I very much doubt if I had left them out another night whether any of them would have revived.

Huntsville, Ala.

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For the American Bee Journal.

How I make Shipping Crates.

BY W. PIERCE.

Instead of the usual method of screwing the top on the crate, I have made my covers an inch longer than the crate and nailed firmly at each end to the edge of a piece one-half inch thick and two inches wide, or, as wide as the upper side piece, with which it will thus correspond.

This will prevent the cover being split, and, if properly done, will fit nicely, keeping its place well when not fastened. To fasten, put a single screw through the middle of each of the end pieces, reaching well into the end of the crate. This will hold the cover firmly in place and at the same time form the best of handles, without sawing them in the end of the crate. The advantage of having but two screws to remove to open the crate, will be found a great convenience.

The best way I have found of putting the top together to be certain of a perfect fit, is to first screw the cleats to the upper edge of the ends of the crate, flush with the top, then rest them on two blocks placed just far enough apart to permit the body of the crate to slip between them and high enough that the bottom may not touch the bench or plank to which the blocks are fastened. The cover may then be nailed to the cleats and the screws removed preparatory to packing.

Garrettsville, Ohio.

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For the American Bee Journal.

My Method of Wintering Bees.

BY J. F. BLAISDELL.

I have 50 colonies of bees. I have kept bees for 12 years and after trying various ways, I have succeeded in not losing a colony by wintering for the last 5 years, except 2 that starved, through neglect. My method is to carry them into the cellar when the weather becomes cold; about the time that the snow comes to stay. For the last 3 years this occurred about the last of December. I think the later they remain out in the fall, if not too cold, the better. When I put them in I raise them up and put an inch strip of wood under each side of the hive, to let all the bees that die in winter drop clear off the comb, so as not to mar it; then take the cap off, to give a free circulation of air through the hive, and I have no mouldy combs. I clear the dead bees from under the hive two or three times, during the winter season. The comb will not be mouldy, and the bees keep healthy in damp cellars. I have an open well in my cellar and give no ventilation except what it gets by the cellar door when we go down. The themometer ranging from 42° to 45°, which I think is about right for this country. As the weather gets warm in the spring I put another strip of wood under the front and back, and put the cap on, to keep them in, if they get uneasy.

Fort Fairfield, Maine, Jan. 6, 1879.

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For the American Bee Journal.

Grape Sugar as Food for Bees.

BY CHAS. DADANT.

The manufacture of glucose is of recent introduction in this country, while I see, in the *Maison Rustique*, that as early as 1830, glucose was extensively manufactured with potato starch in France. This kind of glucose is to-day considered the best, and sells here higher than corn starch glucose.

Of course, such a cheap sugared matter, in a country like France, where the duties on sugar are very high, could not pass unnoticed by French bee-keepers, as a cheap food for bees. But the reports were not always encouraging, on account of the impurities, such as sulphate of lime, sulphuric acid, or lime, contained in glucose. Some bee-keepers praise this food, while others complain of having killed their bees with it. Of course the difference came as much from the difference in the purity of the product as from the circumstances in which it was used.

Impure glucose, used as food in spring, will do very little noticeable harm, if we except the influence that it can have on the strength and the health of the young bees who were reared on such stuff. But in winter, while the bees are unable for weeks to void their fæces, such feed may destroy whole colonies of them. Such result is not to be feared in France so much as in this cold climate. Never, in France, have I seen bees unable to go out of their hives for 3 weeks at a time in winter. Yet French bee-keepers seem to be reluctant to use glucose. Mr. Hamet, publisher of the French bee-paper, *L'Apiculteur*, in his *Cours d'Apiculture*, advises bee-keepers to use glucose only when it is worth less than 4 cents, the price of sugar being 12, with one-half honey or sugar, adding that 2 pounds of glucose will not prove more nourishing for bees than 1 pound of honey. Such is the opinion of a disinterested editor, who has heard both sides of the question.

If we follow the advice of Mr. Hamet, we will mix 10 lbs. of solid glucose, or grape sugar, worth, at 4 cents, 40 cents, with 5 lbs. honey, at 10 cents, 50 cents, and obtain 15 lbs of the mixture for 90 cents. But this mixture will not prove to contain more food than 10 lbs. of honey, worth $1.00; and we can obtain as much and a better food, by using 9 lbs. of white sugar, worth about 90 cents. Thus the profit is reduced to nothing!

Besides, as we have only *interested affirmations* to prove that glucose contains no noxious substances, while *every report of disinterested chemists* proves that glucose is not always wholesome; as on the other side, glucose contains always heterogeneous matters, while pure cane sugar contains 99 per cent. of sugar, we shall be on the safe side by feeding bees exclusively with good honey, or with pure, white, cane sugar.

But that is not all. Mr. Hamet adds that solid glucose has the inconvenience of becoming hard in the hive, and that bees are then unable to use it, nor even to remove it from the cells. Mr. Root does not deny the fact, but this did not deter him from inciting his readers to use such a poor substitute for honey.

In Germany, also, they seem to have very little confidence in glucose as food for bees, since they are yet in search of a cheap matter to be used in place of sugar. A few years ago they were experimenting with extract of malt, which in time, after many praises, was abandoned.

Mr. Lewis Best, superintendent of the Davenport glucose factory, in *Gleanings*, says that his grape sugar is free from all sulphuric acid and sulphate of lime. He adds that he is ready to answer any other question asked. In the November number of the AMERICAN BEE JOURNAL I asked him several questions, but he has not answered them. I will reproduce one of them.

If we mash ripe grapes, their juice, or must, is heavier than water, on account of the sugar that this juice contains. When this must, or juice, has fermented, it is lighter than water; the sugar of the grapes having been changed into alcohol—the weight of pure alcohol being less than four-fifths the weight of pure water. Therefore, the more alcohol in a wine, the lighter the wine. If, to increase the quantity of alcohol in our wine, we add to the must some solid glucose, from the Davenport factory, the sugar of the glucose is also transformed into alcohol; but, in spite of the transformation of the sugar of the juice and of the sugar of the glucose added, the wine obtained is heavier than water. What is the matter contained in the glucose which causes such a result?

This wine, strengthened by glucose, never has done fermenting; it clarifies so slowly that some wine-growers use salicylic acid to stop fermentation and make it salable.

These results are not due to the addition of true grape sugar, for, every year, I add to my grape juice the water in which I have washed the cappings of the extracted combs. Yet, with this impure honey, I make very good wine, which has done fermenting and is as clear as pure water, inside of two or three weeks.

Why is it not the same with solid glucose, if it is identical with the grape sugar of which honey is constituted? In spite of the impure honey used, the color of my wine is bright red, while the color of the wine made with the addition of solid glucose is dull red—nearly violet. The same color can be obtained by mixing a little lime in a glass of wine. Are not such dissimilar results due to the sulphate of lime, or to the sucrate of lime, or to both of these substances contained in the corn sugar of the Davenport factory? It has not yet been proved that the use of glucose is not without danger. Can Mr. Best satisfactorily solve the following:

1st. As food to promote breeding, we run the risk of lessening the endurance and vigor of the young bees reared on such food; the best factories (the Davenport factory not excepted) being unable to manufacture a product always absolutely deprived of dangerous matters.

2d. As food for winter: for glucose, under some circumstances of impurity, or during long protracted periods of cold days, will act like molasses, and a great many bee-keepers have tried molasses as winter food with the worst results.

3d. If we add to these results the fear of spreading, in the minds of people at large, the idea that our crops of honey are due to the use of glucose; and this idea is already too much disseminated, and may, as Mr. Chas. F. Muth has remarked, cause a serious damage to the sale of honey either in comb or extracted.

If we compare these risks to the small profit (if there is any) in using glucose as food for bees, we shall conclude that the benefit is too small; and I doubt not but that all will in future let glucose alone.

Prof. Kedzie, page 76 of the AMERICAN BEE JOURNAL, says:

> "The sugar of liquid and solid glucose has the same composition, and is made of the same materials. The only difference is that glucose syrup contains more water than glucose sugar. If the syrup is boiled down it forms solid glucose. Still, some persons claim that solid glucose is not as sweet as liquid glucose.....We have in the laboratory a specimen of grape sugar which, when made into syrup with water, is fully as sweet as the glucose syrup of commerce."

In Europe solid glucose is made by boiling down liquid glucose, and the books of chemistry seem to know of no other process to manufacture it.

In this country the manufacturers have found a cheaper process to produce solid glucose, or something having the same likeness. In France, when liquid glucose is worth 4 cents, solid glucose sells for about 6 cents. The difference pays for the fuel, the work of boiling down liquid glucose, and the loss of weight by the evaporation of a part of the water contained in it. Imported glucose, in comparison with its price and density, is dearer than this syrup.

Here it is the reverse. Liquid glucose is offered at 5 cents and solid glucose at 3½ cents. It is acknowledged that solid glucose is bitter in taste. Why? On account of the great quantity of sucrate of lime contained in it.

Some affirm that solid glucose is not as sweet as liquid glucose; and they are right, for they have tasted the cheap article.

Prof. Kedzie has found that solid glucose, made into syrup, is as sweet as the liquid glucose of commerce, because he has tasted a sample of solid glucose imported, or made for the purpose of being used for a sample.

I will try to send Prof. Kedzie a sample of solid glucose such as is sold by the barrel, so as to know exactly what it is.

In the Italian bee paper (*Apicoltore*), I notice in the report of the 23d Congress of German and Austrian Bee-Keepers, held in Pomerania last September, that the question of feeding bees was fully discussed by twelve of the best bee-keepers of Germany, such as Dzierzon, Vogel, Dathe, Lehzen, Hilbert, and others; every method used to feed bees in spring was advocated—honey, sugar, compounds of sugar or honey with eggs, milk, wine, flour, &c.; but in vain have I searched for grape sugar or glucose. It was not even mentioned.

If glucose was tried twenty years ago, it has been altogether abandoned by German bee-keepers; although in Europe sugar is dearer and glucose cheaper than it is here. It is imported from Europe to this country. And yet, the editor of a bee paper is the champion of a matter discarded as worthless trash by the bee-keepers of Europe, calling it one of the "greatest discoveries" of our age. He also asks us to prove that glucose is worthless for bees. Our proofs are made. Glucose is held everywhere as a poor article of diet. It is for him to prove that all the chemists, as well as the foreign bee-keepers, who have abandoned it after trial, are in error. Instead of giving this proof, he did not even dare to give both sides of the discussion of the question, knowing that the facts would result in its condemnation.

Hamilton, Ill.

For the American Bee Journal.

Chips from Sweet Home.

BY D. D. PALMER.

In answer to many inquiries about our car-load of honey, please let me say: I had 12,000 lbs. of honey; 3,000 of which was extracted. My neighbor, Mr. Scudder, had 8,000 lbs. of comb honey. We jointly bought about 3,000 lbs., making a car-load of 23,000 lbs. We took it to Toronto, Ontario, costing us (including duty) delivered there, nearly $500. It arrived in very good condition.

We have done our level best for two months, and have sold only a little over one-half of the lot.

We count ourselves good peddlers, especially of honey, but there were two reasons (hard times and glucose) why we did not sell more. Toronto has 400 groceries; two-thirds of these were handling, in glass jars and tin cans, a mixture of honey and glucose labeled "Honey;" an occasional taste satisfied me that it contained from a quarter to a third of honey and the balance glucose.

If we cannot get a law against the adulteration of sweets, I for one, will quit bee-keeping and go into fruit raising.

Dealers with few exceptions handling adulterated honey and jellies know that they are not pure. C. Palmer, a bee-keeper of Dundalk Station, Ont., and I, concluded to see what we could do in regard to adulteration. We soon found that Ontario had a law on adulterations of all food; for the first offence of manufacturing or selling such, $100.00. Second offence (I think) 6 months imprisonment and $100 fine.

We found that dealers knew what they were handling and were equally culpable with the manufacturer of that stuff. We reported several of them to A. Brunnel, Commissioner of Inland Revenue, Ottawa, Ont. He sent notice to Toronto for them to take samples, etc. We were shown and told by the officials that nearly all kinds of food were adulterated,that very few analyzed were found pure, and now honey was added for the first time in America.

Brother bee-keepers, wake up and sign the petitions to Congress, getting all you can to sign them. Write to your Congressmen and continue thus until we have a law to protect ourselves from frauds in food, as we already have a law against frauds in money. If the counterfeiters of money injure the public wealth, the counterfeiters of food injure the public health. When we as bee-keepers, get a law passed which will protect us, we must report every case of adulterated sweets, each one watching his immediate vicinity.

New Boston, Ill.

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For the American Bee Journal.

Queens Mating in the Hive.

BY H. L. JEFFREY.

In the November number of JOURNAL, Mr. W. Emerick's mention of his wingless queen leads me to pen the results of what were at first accidental, and I afterwards tried as experiments. I had tried most of the plans given for artificial fertilization with but little satisfaction until 1876. In September, I sent to Mr. Vaughn for two queens; one of them I introduced into a full colony; the other I put into a two-frame nucleus, to keep till I should get time to drive a swarm from a populous black colony in a box hive. One of the frames in the nucleus contained brood; the other was empty comb, with a patch of drone in the center, perhaps 200 cells; this had eggs in as well as the worker, and the brood was well capped and was perhaps two weeks old; they had a fight and I shut the entrance to admit but a single bee at a time. In a few days I examined and put in a bottle feeder. I noticed that the queen was gone and a queen cell had been started about two days. Then I shut the hive up tight, to see how long they would live. It was nearly or quite the 1st of October and I did not go near them again for between two or three weeks when I again opened it and found eggs deposited regularly in the worker comb. I watched the larvæ until it emerged, and all were workers. This was accident number one.

Accident number two was an extra light-colored queen that I clipped the wings of, so that I might try drones from a virgin queen, and she fooled me by mating, and in 1877, I sent to Mr. Vaughn, for 12 queens for parties that had never tried introducing; they arrived Saturday afternoon, too late to be introduced, so I put 6 of them into some nuclei that I made out of 2 black colonies to keep them till I could notify the parties they were ordered for. After I took them out, I put some combs into two of the hives to shut them up from moths and mice, and I left the few bees that were in hives and a handful of drones to keep them as long as possible, that I might have them a few weeks afterward; both hives reared queens and mated in the hives. In both cases I nailed fine wire over every entrance and ventilation, making it impossible to get in or out.

During the past season I tried it three or four times with success, though I can re-call but one failure out of either 8 or 9 experiments and accidents. I do not consider it anything that can be made of practical use, but I shall continue to try experiments. Will Mr. Hasbrouck please tell us why it is necessary to put the queens into hives to let them lay, as long as he knows that they are mated?

Woodbury, Conn.

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For the American Bee Journal.

The use of Glucose for Adulteration.

BY A. E. WENZEL.

With commendable virtue you reiterate and proclaim against the use of what some would call an estimable quality of glucose, at times palmed off for honey—by some whose elastic consciences are only to be compared by the size of their ravenous pockets. Prof. Kedzie, of Michigan (by the way Michigan furnishes many whose impulses dictate the real good of the general public—vide Heddon's article on "Dealers in apiarian supplies" in Feb. number), hits quite an effective rap on the head of the growing (we would we could say, waning), monstrous evil.

It grieves us to notice the too easy virtue of one of our largest dealers,—whose business connection with the world at large is renowned--apologizing for the use of glucose in honey, because people, "will buy, a mixture, and are *now* putting a notice upon every jar packed by them, they believe the consumer has a right to know just what he is getting!" Very good, if this be done honestly and in good faith, very little complaint could be offered against the practice. But, where then are the consumers coming from?

Pure glucose, and glucose (commercially) may be two different articles (not unlike pure milk and swill milk) which remains to be seen—even if a small per cent of deleterious substances by long time consumption may prove injurious to the system or like the apparently pure mountain streams of Switzerland, when no dubiousness exists as to their purity, those who long use it, and are accustomed from infancy with its slaking waters—it is well known that to them it occasions the disease commonly known as the rickets producing malformations in large heads and humped backs. We would that the same might be said of those who handle glucose for purposes of adulteration that they might "get a head put on them," or a hump on their backs.

We had better remain obscure, and poor, in innocence and virtue, than have notoriety gained through fraud and corrupt practices.

Callicoon, N. Y.

For the American Bee Journal.

The Transportation of Bees.

BY L. C. ROOT.

In your January number A. E. Wenzel asks an explanation of a statement made in an essay read by me, at our last National Convention. I there stated that "in purchasing bees, if they are transported long distances, they will be benefited by the shipment."

Mr. Wenzel asks "why so?"

During the past 10 years I have purchased bees quite largely, nearly every spring, transporting them various distances, from 1 or 2, to 150 miles. Having the purchasing and shipping under my own immediate supervision, I have been able to observe conditions and results very closely.

I formerly thought it most desirable to procure bees as near home as practicable, and move them in the evening or early morning, with as little disturbance as possible. It, however, became necessary to procure them from distant sections, and when such colonies were placed in our apiaries, the degree of activity with which they labored, as compared with those which had not been moved, but were equally strong, was at once noticeable, and very decidedly in favor of the former. Examinations from time to time indicated their superior progress.

Now, as to the question, "Why this benefit?"

Had I been able in my "Hints to Beginners" to have given directions for moving bees, I should have urged the necessity of supplying water during transportation. In observing their condition after moving them, I find that water so taken has been used for diluting honey, and that the queen is thereby stimulated to deposit a larger number of eggs, the same as when taken from the cellar in spring, only to a more marked degree. When moved at the proper season, this item will be found quite important.

In shipping bees by rail, it has usually been my practice to ride in the car with them, and I have observed particularly the efforts of the bees to get rid of whatever was obnoxious to them. The agitation caused by the motion of the car would start the moth-worms from their galleries and hiding places, and the bees would be seen trying to eject them and portions of their galleries and cocoons from the hives. There are also numerous minute pests of the hive that it is reasonable to suppose may be dislodged during such excitement and disturbance.

Those who have noticed the advantage to a colony gained by transferring, will, I think, readily see the benefits above named. I mentioned this idea in the essay referred to, more especially from the fact that most beginners think as I did, that the value of bees must be necessaily somewhat impaired by long journeys.

My point is, that instead of this apparent objection being a hindrance to the pursuit of bee-keeping, careful investigation will prove that they may not only be moved long distances with safety, but with positive advantage, if proper care is exercised in other respects.

Mohawk, N. Y.

For the American Bee Journal.

Hive Register.

BY J. V. CALDWELL.

Some kind of a register is needed, instead of using book and pencil, &c., to write on. I have made one which I think practical, not however claiming perfection, but, as I think, it is a step in the right direction. A brief description will perhaps be of use. It is all arranged on a card about 6 inches square. A circle with the days of the month on the inside, will record the following operations and the date on which they occur: Swarmed, divided, queenless, young queen, laying, cell, eggs, black, hybrid, Italian, box honey, extracted, &c.

I at first thought that these could not all be run together and had arranged them in six circles, but upon the suggestion of G. M. Doolittle I changed it to the present form. I will use tin hands, and after swarming time the hands may be used to inform us concerning other operations, as we do not expect surplus from queenless colonies, and thus by a little thought the one register may be used for all the principal work with the bees.

Cambridge, Ill.

For the American Bee Journal.

Queens Duplicating Themselves.

BY A. F. MOON.

Since my proposition, made in the American Bee Journal last September, it appears that no advocates of the above theory have defended their unvarying "Princesses," although it was most emphatically claimed by one that he bred such by the hundred. At the time that proposition was made I had not the least idea that it would be accepted, unless it was by some one unacquainted with the nature and character of the Italian bee. The profound silence, and what has already been said to establish this theory of queens duplicating themselves every time, reminds me of one of those "golden opinions" expressed by one of old, that he was dogmatic at 20, an observer at 30, an empiric at 40, but at 50 he no longer had any "system."

I have never assented to authority, however high, when it contradicts my own experience. If truth manifests itself anywhere I do not seek to smother it with glossing, or try to hide it, but I acknowledge its greatness and esteem it for its victory. I had about concluded to double and triple my proposition, but if the one already made cannot find even one among the hundreds that will defend their theory, your readers no doubt will consider the matter settled.

SHINING BLACK QUEENS.

In the American Bee Journal for October, Mr. J. D. Slack, of Louisiana, says that the statement made by some about shining black queens puzzles him. He wishes to know if they were bred from light or dark-colored queens. We have seen them appear in both, and from the best apiaries in this country. All that is necessary to know in this matter is first to understand whether the Italian bee has any fixed type, and that is so well understood that it is unnecessary to repeat it, but fearing some beginner will ask, we repeat that we want our queens to breed their worker progeny uniform in their markings—*i*, *e*., with the three distinct yellow bands. If they do that, we think it fills the bill; if they do do not, we do not want them. If a queen is impure, it is easily detected by the apiarist, as some of her workers will be imperfect in their markings.

UNTESTED QUEENS.

It was with much pleasure that we read in the proceedings of the conventions the resolutions passed in regard to queens, purity, &c. This shows that there are yet zealous men in the field who are working for the advancement of practical apiculture. Could all be induced to raise the best, and send out none until tested, then we should have great improvements in breeding the Italian bee.

I see that my old friends, Cook and Heddon, did admirably in regard to cheap queens. It is my candid opinion that far more injury has resulted from sending out cheap untested queens, than from all the impure, or those tested and sold for pure, ever reared. All queen-breeders should raise nothing but the best, and send them out tested and reliable. I am glad to see that bee-keepers begin to appreciate this, and hope they will permanently decide this important matter.

Rome, Ga.

For the American Bee Journal.

Early Spring Dwindling.

BY MOOSH AMIEL.

I stated in an article on page 75, March, 1878, that I had not experimented with the device there suggested, but did so immediately after they had a good purifying flight. Here let me give the result of a thorough experiment just tried for dysentery. They will not discharge themselves at all, the area of flight is too small; so, for that purpose, the cage is of no value, and it could not be well made large enough if fastened to the hive. One of from 6 to 10 feet square might give them a flight sufficient for purification. This being so, we will not attach the cage until they have had this flight, but be sure to get it on before the bees have had a taste of honey or pollen from early blossoms, as herein lies the mischief; once having had a taste, they are tempted out, get chilled, and are lost. I am of opinion that this is as much, if not more, the cause of spring dwindling than the natural death of the bees from old age. The cage 13 or 14 inches square will be ample in capacity.

The passage-way from the hive to the cage should be near the lower corner of the wire-cloth or cheese-cloth to admit the light in the side nearest to the passage-way; mosquito-bar will not answer.

At any time, by excluding the light except at a small corner near the entrance to the hive, the bees will fly at once to that light which will bring them nearest to the entrance of the hive; they readily find their way in. As stated a year ago, an entrance for the hand, for the introduction of feed flour, meal, honey or syrup, should be made.

Nine colonies were experimented with last spring, seven by myself; and it was a success in every case. The bees will be uneasy, but it will not injure them, as we gave them a good purifying flight before confinement, and they will have but about a month to stay and we can quiet them by excluding the light.

* * *

For the American Bee Journal.

Glucose.

BY A. W. FOREMAN, M. D.

I suppose it is very generally known that there are three kinds of sugar. These are cane, grape and milk sugar, known to chemists respectively as sucrose, glucose and lactere. Let it then be understood that when I say glucose, grape sugar is meant, for they are but two names for the same article. Mr. Root errs when he gives them separate meanings.

Substances have two characteristics—chemical and physical. They are sometimes chemically the same, but physically very different. This is accounted for on the supposition that although they are known to contain the same relative number of equivalents, their molecules are differently arranged. This may be illustrated with starch and dextrine. Their formula is identical, and chemically is written as follows:

$$C_6 H_{10} O_5.$$

This means that each molecule of starch or dextrine is composed of 6 atoms of carbon, 10 atoms of hydrogen, and 5 of oxygen. Yet, notwithstanding their chemical identity, there is a very great physical difference.

This illustration gives us the starting point in the manufacture of glucose, the chemical composition or formula of which is

$$C_6 H_{12} O_6.$$

It will be observed that the only difference between this formula and that of starch or dextrine, is that we have here two equivalents more of hydrogen and one of oxygen. Now, throughout nature, whether done naturally or artificially, whenever two equivalents of hydrogen unite with one of oxygen the product is water, and its formula is

$$H_2 O_1.$$

It can now be seen at a glance that if we can unite one equivalent of water with a given amount of starch, the product will be glucose. It will be remembered that Mr. Dadant has pointed out that a mixture is not a chemical union. Hence, when water and starch are mixed you have *not* glucose; it is only a mixture of starch and water. Now add a small amount of sulphuric acid and apply heat up to 190° F., and in a short time the *physical* character of the starch is changed into dextrine. Continue the heat the requisite length of time, and a chemical change takes place, by which the dextrine unites with one equivalent of water, and the product is glucose. Now what office did the acid perform? Did it enter into the new combination? Not at all; for the acid can be reclaimed and it will be found to have suffered no loss. This illustrates a curious fact in chemistry. For some reason, not known, perhaps, two substances may be mixed and no chemical union takes place until a third is added, which causes an immediate combination of the first two, resulting in a product which does not contain a trace of the third. This is exactly the case when starch and water are mixed. No union occurs until the high priest, sulphuric acid, steps in and performs the marriage ceremony without becoming one of the party to the union. But Mr. Dadant, in the December number, says: "I am very far from being a chemist, yet I can see the difference between a mixture and a combination. In the manufacture of glucose there is a combination between corn starch, water and sulphuric acid." A statement entirely erroneous as to the essential fact. The acid is the bone of contention here, and Mr. D. would have us believe that it is one of the constituent elements of glucose. In so far as the acid is concerned, it is a simple mixture, and enough sulphuric acid could not be extracted from a thousand tons of glucose to kill a single useless drone.

Now, I do not wish to be understood as saying that glucose can be manufactured only in the way I have described. It is found all around us in great abundance; nearly all green fruits contain starch and are sour, and the process of ripening is mainly the conversion of this starch into glucose. Hence we find it in grapes, berries and other fruits. It is the chief sweet of flowers, and exists in great abundance in honey. It is produced incidentally in the manufacture of all malt liquors. Cane sugar is fermented and converted into alcohol and vinegar, but always first undergoing the transition into glucose.

We say of good bread that it is splendid; so sweet that it almost melts in the mouth. It is the action of the juices of the mouth upon the starch of the bread converting it into glucose, which gives to it its sweet taste. This action is so complete, that a small quantity of boiled starch held in the mouth only a few minutes, will be so completely converted into glucose as not to leave a trace of starch.

Glucose may also be manufactured in large quantities by the addition to starch of diastase or ferment, which does not contain any sulphuric acid certainly. It is also a fact, that brown sugar sometimes contains considerable quantities of glucose as an incidental product.

"But the lime, the poison gypsum; what

about that?" In the manufacture of cane sugar, the moment the juice is expressed from the cane, it is mixed with lime, and during the varying processes of refining, it is mixed twice more at least with it. Almost the last thing before the final granulation, it is treated to a dose of it. Mr. Root is not read up on sugar refining, or he would not have stated that blood and other offal of slaughter-houses is used. That is the old process, and in first class establishments has been superseded by lime. But you may ask is this sulphate of lime, gypsum? No, unfortunately, it is not. If it were, it could be much more easily removed, as gypsum is less soluble in water, and more permanent in chemical combinations, than any other form of lime. This whole controversy seems to be based upon the idea that glucose necessarily contains lime and acid. As cane sugar is so liberally dosed with lime in its manufacture, considering the vast quantities of it used, we might expect to see great evil resulting from it, but certainly nothing of the kind occurs, for two reasons chiefly.

First, because lime when taken in small quantities as a mixture with food is harmless. And in the second place, there is none left in the sugar to eat. Now, then, the important question is, are these agents more difficult of removal from one sugar than from another?

The question only needs to be stated to show its absurdity. If the manufacturers of glucose fail in this matter, and thus do not give us pure glucose, let us not buy it; and if there is any demand for it, somebody who can and will produce a pure article will supply that demand.

We have Mr. Dadant's quotation from Bloxan to show how easily we can detect the sulphate of lime, and if any one is imposed upon the second time by the same manufacturer, it will be his own fault. He also states that the best chemists of France, England and the United States say that glucose always contains more or less sulphate of lime. This would be a very foolish statement for those wise men to make, as it is sometimes manufactured without the use of lime or acids. I have examined a few authors, and have not found one who makes any such statement. Such authors as Towne, Youman, Gregory, Bowman, Atfield, Wells, U. S. Dispensatory, American Cyclopædia, and some others, make no mention of such mixture. I do not wish to be understood as calling in question Mr. D.'s statement; but as I have given the names of a few authors who do not mention the matter, will Mr. D. give us the names of the best chemists, with the title of the book and page where these statements can be found.

I fear Mr. D. scarcely does Prof. Kedzie justice in saying that he has found both sulphuric acid and lime in samples of glucose. If this statement has any meaning, it is intended to answer Mr. Root, when he says they cannot exist in an active state in the same substance at the same time. That this statement is true no one knows better than Prof. Kedzie. What the Professor found was sulphate of lime and sulphuric acid, and the reason the acid was there was because the manufacturer did not use chalk enough to neutralize it. Mr. D. also intimates that glucose cannot be made with any acid but sulphuric. This is an error; it can be produced by the presence of almost any acid, or without acid at all.

But why all this outcry against glucose? Is it because unprincipled scamps are using it to adulterate cane sugar? If so, punish them. For whoever mixes them and sells them as cane sugar is a thief, and I am as willing and anxious to catch him as any one. I am willing to take any action that holds out any promise of curtailing this fraud. If we can find any legitimate use for glucose, we can easily get it pure. I have had that which was practically so.

On the 23d of October, 1877, I obtained from one of my neighbors, who was going to obtain some honey by the old brimstone process, some black bees. I prepared two hives, putting into each one three or four old dry combs and some frames filled with foundation, but not one drop of honey. I began at once feeding pure glucose dissolved in water. Each colony took in between 10 and 15 pounds. I examined them frequently, and found they had built their foundation out pretty well, and the combs were as hard as a board with the glucose, as it had solidified as fast as deposited.

Thus they remained until the 10th day of March, almost five months, without a taste of anything but glucose. On opening them at this time, I found that one colony had eaten up all their stock of glucose, while the other one had perhaps a pound left. I now gave each of them two frames containing some honey, and as a result of this dreadful poison on which these bees wintered, for 25 lbs. of glucose I received $25.00 worth of honey, and have the same colonies yet healthy and prosperous.

Now, Mr. Editor, how can you explain these facts? In the December number of the AMERICAN BEE JOURNAL, you speak of a minister who lost eight colonies, and another man who lost several hundred colonies by feeding glucose. Shall I say I don't believe glucose did the mischief? My evidence is positive. I fed glucose. My bees lived on it exclusively all winter, and came out strong and healthy; therefore, it is not poison, and it follows that those who fed glucose and lost their bees, either fed impure, poisoned glucose, or their bees died from some other cause. It also follows that if my glucose was pure, others can have it pure. I will venture the assertion that nine out of ten of those who have fed it, have not noticed its "killing effect" on their bees. I have no special fight to make for glucose. I have no use for it except to feed weak colonies late in the fall.

Whitehall, Ill.

[Dr. Foreman answers his own questions. The glucose of commerce and the *pure* article are two different things. Our testimony on the other side is just as positive. We had both from eye witnesses, and no more doubt it than we doubt our existence. The clergyman is an unimpeachable witness. The killing of several hundred colonies by it is just as positive. We were personally told by the man who mixed and fed it to them. It was ¼ honey and ¾ glucose. If the Doctor's glucose was pure and not poisonous, certainly that used by the other parties cited was poison most *deadly*. In the language of Prof. Kedzie let us repeat: "'Truth, crushed to earth, shall rise again; the eternal years of God are hers'—but grape sugar that is to 'rise' must be far better than that for sale in the markets to-day." —Ed.]

Our Letter Box.

San Bernardino, Cal., Jan. 4, 1879.

The January number of your valuable Bee Journal is *splendid*. I always read the Journal with a great deal of interest. I rejoice greatly that you have taken such a *determined* stand against the adulterators of honey. A. W. Hale.

Hokah, Minn., Jan. 29, 1879.

My 10 colonies are wintering well in a dry cellar. I am feeding them with sugar syrup. Why do bees leave their hive when it contains 4 or 5 pounds of honey? I lost one colony in October, by their leaving it thus. On examination, not a bee could be found in it. Wm. Lassing.

[Bees leave the hive in the manner described, from several causes; such as disease, queenlessness, &c. In all probability the case mentioned was caused by queenlessness.—Ed.]

Aurora, Ind., Jan. 27, 1879.

Though the weather has been very cold, and many bee keepers have suffered great loss, yet I find the most of my bees in a good condition. I have cushions made of southern moss which I put on my hives, and it is the best winter covering that I can find. It is warm and I think draws all the dampness out of the hive. I lately opened one of my hives and found brood in all stages, and the queen laying. Simon Humfield, Jr.

Hagertown, Ind., Jan. 21, 1879.

I have a good dry cellar under my dwelling where I winter with success, seldom losing a colony. The only objection to wintering in the cellar is carrying in and out. I finely overcame that laborious task. My work shop and honey house is built on a bank; the building stands about 7 feet above the plot of ground below. I dug out a cellar under the building, 18x27 feet, and walled it up with 18 inch walls, which are frost-proof. I constructed a railroad to run my bees into the cellar; the bottom of the cellar being on a level with the bottom of the yard. I can run them in now with ease and fill the cellar in 30 minutes. When all the cars are filled, they hold 112 colonies; the car holds 14 colonies at a time. I feared it would jostle the bees in running in on the cars but I find it does not disturb them as much as carrying them in. I now have 107 colonies in the cellar apparently doing well. I work principally for comb honey and I try to get it in good shape for the market. Have no trouble in disposing of it; and sometimes I cannot supply the demand.
S. N. Replogle.

Wilmington, N. C., Jan. 28, 1879.

My bees are to-day bringing in pollen of some description, very lively. The article gathered is white, and somewhat resembles white flesh. What can it be gathered from? My bees have considerable young brood in every hive. R. C. Taylor.

[An examination of that brought in by the bees, as well as the local pollen producers would be likely to decide the question. We are not conversant with the plants and shrubs of your locality to decide with certainty.—Ed.]

Lavansville, Pa., Jan. 28, 1879.

I have been unable for some time to answer correspondence, or do anything else. That fearful disease, diphtheria, swept away our six children, that heretofore were always in blooming health. Our three boys and three girls were all taken down at once, and all died within 11 days. My heart is filled with sadness but he who said, "suffer little children to come unto me," knows best. I trust they are now feasting on Celestial honey, perhaps in company with our venerable Quinby.

"Far in the distant heavens they shine,
But still with borrowed lustre glow;
Saviour, the beams are only thine,
Of saints above or saints below.
For them no bitter tear we shed—
Their night of pain and grief is o'er—
But weep our lonely path to tread,
And see the forms we loved no more."

I hope the readers of the American Bee Journal will never suffer such a sad bereavement. H. H. Flick.

Navasota, Texas, Jan. 27, 1879.

My bees are all bringing in pollen, and have been ever since our last cold snap a week ago. It is a wonder among all bee-keepers where they are getting it—there is no shrub in this country that is even budding yet. Would like to know where they are getting it. M. M. Camp.

[If no flowers are budding—there is perhaps a flouring mill within 4 miles, from which your bees got pollen.—Ed.]

Westfield, N. Y., Jan. 21, 1879.

I had 16 colonies in the spring of 1878; they gave me a good yield of honey, and an increase of 18 colonies. I sold all but 25, because I could not get them into my winter house. I think it is too risky to try to winter out of doors here. My bees were housed on on the last day of November. I examined them yesterday and found them in the best of condition. Bees along the lake shore did well; honey this year sold for a fair price. I sold my box honey for 18 and 20 cents per pound; extracted at 10 cents readily. I shall extract more next season. I think I can create a home market for all the honey I can raise. I shall try to get my neighbors to put up honey in a more marketable shape, for it will help the market.

FRANKLIN HARDINGER.

Port Gibson, Miss., Feb. 10, 1879.

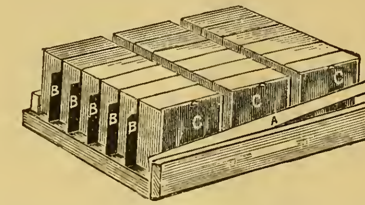
The BEE JOURNAL has been of great help to me in managing my bees I could not do without it. The year of 1878 was a hard year on bees and bee-keepers in this section. Early in the spring we had the fruit prospects for a large honey harvest, but a sudden change in the weather blighted all our hopes. I had to leave my bees during the epidemic of yellow fever, and on my return home I found that I had lost several colonies. The winter has been the coldest ever known in this county, and most of the bees in this county are dead. I am feeding daily. I see that bees are gathering pollen. Nearly all of my section boxes are full of nice comb, left over from last year, shall I leave them on the hives, or take them off until later in the season? I am afraid if I leave the boxes on full of comb, that the queen will enter and deposit eggs in the section boxes. I thought of putting empty boxes on so as to get new comb in the sections. What would you advise. R. M. HASTINGS.

[Boxes should not be left on the hives when the bees have no need of them for storing honey. They will not build comb in the boxes unless they need it.—ED.]

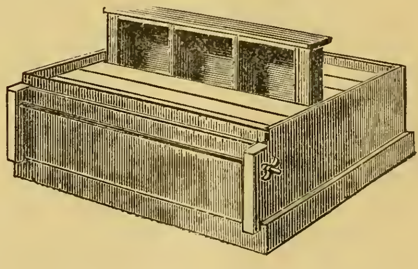
Shelbyville, Ky., Jan. 27, 1879.

Please give us some information about taking honey from the Langstroth hive in prize boxes. I see no trouble in these boxes as used in the second story, or comb honey racks, but all the devices that I have seen without exception ignore the fact that a section of prize boxes when suspended in the lower story of a Langstroth hive, near the brood nest, fails to reach the bottom by several inches. I have thought of filling this space with a block of wood cut to fit, but I think that all such expedients should be avoided, if possible. In view of the fact that the prize box seems to be accepted as a standard, would it not be better to have the frames in the Langstroth hive to run across rather than in the direction of its length? The reason of the suggestion arises out of this fact, unless the colony is a large one it is apt to fill one end, if not one corner of the hive only—thus large spaces are left vacant—and these vacancies in winter are very cold—I have not obviated this objection by adjustable boards or cushions for the reason that the stores contained upon a few combs, perhaps imperfectly filled, would make the chances of wintering hazardous. It seems to me that a shorter frame with division boards would compact a colony in better shape for winter, for breeding, and for the formation of comb. I have during the past year seen quite a number of colonies in standard Langstroth hives, with whatever comb they had built—at the ends of the frames and extending one-half or at most two-thirds of the full length of the frame—thus leaving either in the front or rear a large vacant space. Of course this should not have been, but I suppose the colonies being those of the current year (1878), and the season being a poor one, the bees under the circumstances could do no better; but if the frames had been shorter, would they not have done better? The Langstroth hive in this part of Kentucky is the standard. Is not the subject of transplanting queens' larvæ a process of great practical import, and would it not be well to bring it to the front for a season's experiment? Would not a collection of the known facts upon the subject of fertilizing queens in confinement probably lead to a general effort in that line during the season of 1879. W. M. ROGERS.

[We do not advise the use of surplus receptacles in the brood chamber. There are better and simpler methods of applying them. One, is that mentioned several times in the JOURNAL, by the use of the comb honey rack. (See cut).



Another is by the use of cases as illustrated on page 113, of this JOURNAL. Seven of these fill a story for the Langstroth hive, and can be lifted on or off all at once with ease. (See cut).



Seven-inch Story for Seven Cases.

Another plan may be seen illustrated in our next JOURNAL, as used by Mr. James Heddon.

Bees are in more danger of starving in winter with plenty of stores in the hive, where the frames run cross-wise, as they cannot pass *en masse* from one range of comb to another. We prefer the frames to run lengthwise, but some use them as you suggest with success. Among these we may name Mr. G. M. Doolittle, Prof. Cook, Messrs. Oatman & Son, Mr. Roop, &c., &c. It is not possible, nor is it desirable, to force all minds into one channel. There will be a corps of bee-keepers at work on each and every problem, in numbers according to the necessities of the case, and all the progress of our pursuit will be carried along together.—Ed.]

Martinsburg, Mo., Feb. 5, 1879.

I believe there will be a "big" loss of bees this winter, from scarcity of honey—a disposition in almost all to divide, making too weak colonies—and then the very cold winter. Most have wintered on summer stands. I lost one (the best of 14), plenty of honey and had same fare as others—on summer stands. Cause, I do not know.

E. R. Douglass.

Wayne, Mich, Jan. 28, 1879.

King-birds or bee-martins seem to be extremely curious in their tastes and habits; their maws are always well filled with rose-bugs and other insects in the morning, but never have any part of a honey bee until drones fly, say from 9 a. m. until 4 p. m.; neither are they about the apiary until drones fly, late in the morning. This is curious. They may catch queens, I cannot say—can you? I will take the chances and save every king-bird and house-wren to catch drones and bee moths. The king-bird will perch on a dry limb at the apiary in the morning and finding no drones will leave until they are out. Moosh Amiel.

[In all probability many of the birds that have caused more or less apprehension to bee-keepers are rather more of friends than foes. No doubt the species you mention are of more good than harm to us.—Ed.]

Chillicothe, Mo., Feb. 4, 1879.

I purchased three colonies in the fall of 1877 which wintered well. One being in a box and two in movable frame hives, (one being the Quinby), I now use a hive 16¾ inches long 14¼ wide and 20 inches high containing eight frames. My increase last year was eight, four by artificial and four by natural swarming. The first artificial colony I made in June 1878 by transferring those in the Quinby to 2 of my other hives. I had eleven colonies to go into winter quarters with, eight strong and three weak ones; the latter made only six combs, and stored only 20 to 25 lbs. of honey owing to the fall crop being cut short by drought and early frost. I had 125 lbs. of honey in the comb. I prepared my bees for winter in the latter part of November by placing a quilt over the honey board, leaving a hole in the board for the escape of moisture and filling the cap with chaff, and left them on their summer stands. They did not come out until the middle of January; since then they have had several flights the weather, being warm most of the time. They all but one seem to be in good condition. I do not think I have lost more than a pint of bees to a colony. This is my first year's experience in bee-keeping. I have not succeeded as well as some, yet I am not discouraged. I love my pets as much as ever, and hope to succeed as well another season. Last Monday when the bees were flying I opened a hive which was troubled with moths, after taking up three or four frames I found the queen hanging on the comb apparently lifeless and forsaken by the bees, there being none near her. I picked her off the comb and held her in my hand a short time; finding her alive I brought her in the house and she soon revived. I then replaced her in the cluster of bees and they welcomed her as though she had been absent a long time. I do not see how she could chill in so short a time, not being over six or eight minutes. She is a year and a half old. The hive now contains sealed brood. I want to know what you think was the cause of her being forsaken by the rest of the bees. Do you think she was diseased or chilled?

F. S. Thorington.

[Probably chilled.—Ed.]

Los Angeles, Cal., Jan. 26, 1879.

If a bee ranch be situated on or near an extensive sulphur spring, will the sulphur do any harm to the bees? If pure water was obtainable would the bees go to it instead of the sulphur water? Or if there was none but the sulpur water would bees do well on it? Which do you consider best for California bee-men to use, barrels, 20 gallon, or 5 gallon coal oil-cans, for Eastern and European markets? F. C. Hazen.

[We never heard of the experiment of giving bees sulphur water having been tried. If any one has done so, we should be glad to have them answer the question. As to the package for shipping honey from California—many coal-oil cans have been used, protected in a half-box. But both ways will be utilized hereafter as heretofore.—Ed.]

Reisterstown, Md., Nov. 19, 1878.

In queen rearing I cut worker comb, (containing eggs or just hatched larvæ) down till it looks like foundation, then "stick" little hollow cylinders of wax (like thimbles without any tops) ⅜ inch deep, exactly over the eggs 1 inch apart; hang in a queenless colony. You can have as many queens as you prepare eggs for. Make these cylinders from natural comb, for I believe wax loses its organized structure, (not organic composition) when melted. In the absence of a better illustration, I will say, the change is somewhat analagous to that which takes place when the fat of a hog is "rendered" into lard—the same thing, yet different in structure. I have reason to believe that bees can recognise this difference, and fearing that all is not right, refuse to work as desired—am afraid this will account for the failure of many artificial operations in queen rearing. The thimbles can be made by pressing comb in a plaster cast of a natural queen cell. (How will this tally with the theory that the sex depends upon the cell?) I took a black queen, put her on a block, and covered her with a thin clear tumbler; in crawling about she aid about 20 eggs, which I put, with a feather, into empty cells and hung in a nucleus hive. From these eggs, they raised a queen and 6 workers. F. Della Torre.

Enfield Centre, N. H., Jan. 10, 1879.

I have been reading Cook's new "Manual of the Apiary," and think it the best of our American works. LEWIS T. COLBY.

Sherman, N. Y., Feb. 6th, 1879.

The winter here has been a severe one, but I have yet to hear of any bees being destroyed. Our farmers about here are not so extensively engaged in bee-culture as in other parts of Chautauqua county. I consider the AMERICAN BEE JOURNAL a good bee paper, and wish the publishers success. M. L. DORMAN.

Monroe, Mich., Oct. 6, 1878.

I have just read the sixteenth annual report of the Michigan State Board of Agriculture, and was pleased with Prof. Cook's trial to plant food for bees, but do not find among the plants our milk-weed, which grows on any soil, no matter how poor. For hundreds of years the *Asclepias coruntí* and *incarnata* have been planted in Russia for this purpose, and these flowers always swarm with all kinds of insects, among which the bees are the most frequent. As these plants blossom at a time when the earlier flowers are getting scarce, they are so much the more welcome. The Russian peasants, although Christians for many centuries, pray yet to the bee-god, and offer him on a little altar, honey and wax, concealing it from the eyes of his pope or archimandrite, who would punish him for his superstition; but with the help of his bee-god and the asclepias, sowed on all waste places, he expects a rich harvest of honey and wax. E. DORSCH, M. D.

[Prof. Riley, when he advised sowing milk-weed or asclepias to entrap and kill the bees, was no better informed in this matter in relation to his own native Europe, than he was in the United States. Dr. Dorsch is right; asclepias is a valuable honey plant, as I stated in my "Manual," page 232.—A. J. COOK.]

Fort Atkinson, Wis., Jan. 22, 1879.

I put into my winter house 65 colonies, most of them with plenty of honey, but of rather poor quality. They weighed in 8 frame Langstroth hives, with cap off, from 50 to 73 lbs; weight of hive 23 to 25 lbs. I keep the temperture as near 40° as possible; they are very quiet and I think the prospect for them is good. L. M. ROBERTS.

Seymour, Ind., Feb. 6, 1879.

Success to the AMERICAN BEE JOURNAL. I don't see how any bee-keeper can afford to do without it. I consider every number worth the subscription price, so you may consider me as belonging to the JOURNAL family. I have been a keeper of bees from boyhood up and as everybody it is said, rides some "hobby," my "hobby" has been bees. I have had the Italians for the past five years and must say that in their purity they cannot be spoken of too highly. And as there is considerable talk about purity at present I have concluded to send to six or more of the leading queen breeders and see if there is any material difference in them, and report my opinion through the columns of the BEE JOURNAL. Of course I shall inform those I order from of this intention and will give a fair and candid report. The past few years I have been breeding from queens purchased of Oatman & Sons, of Dundee, Ill., and R. M. Argo, of Lowell, Ky. I am not keeping a large number of colonies, have been limiting my number at 25, as I have been living in the city but have lately purchased 12 acres immediately adjoining the city of Seymour, and expect at least to be able to attend double the number I have now, and shall be happy to entertain any of the bee-keepers who can make it convenient to call upon me after the 1st of September, as by that time I hope to complete my new buildings. C. H. HANCOCK.

Swedesburgh, Iowa, Jan. 28, 1879.

This will be a hard winter on bees that were left out as mine are. Several of mine have died already. I calculated to put a part of my 80 colonies in the cellar, but I was taken with rheumatism in August. I tried bee stings, but they give no relief; I tried 3 at a time, but received no benefit. I tried a galvanic battery a week but could perceive no benefit from it. I had to wear it out by degrees. H. M. NOBLE.

Hastings, Minn., Feb. 3, 1879.

In May, 1878, I purchased 2 colonies of black bees at a cost of $12.00; also material for 8 Langstroth hives and 100 section boxes for $12.50. Total $24.50. From them and the increase I have taken 425 lbs. of honey; 140 lbs. being comb, and the remainder extracted. I now have 6 good colonies in winter quarters. This is my first bee-keeping. C. O. BALL.

Bedford Station, Mich., Feb. 10, 1879.

The Southern Michigan Bee-Keepers' Association was organized at Battle Creek, on the 6th inst. A. D. Robinson, *Pres.;* B. Salisbury, *Sec.* Annual meeting first Tuesday in December. Quarterly meetings to be called by the executive committee at their discretion, at the apiaries of members. We took our bees out for a fly on the 8th inst; they are doing nicely. Those left on the summer stands are in poor condition. H. C. WILDE.

Sandwich, Feb. 3d, 1879.

Mr. Chapman asks how to protect an apiary from human robbers. He can protect his bees by building a fence around them so that a person cannot get through without climbing over the top, then string or put a wire on for the top rail; let this wire run loose through staples driven in the posts, and connect the end of the wire to a bell on the house. The moment a party tries to get in the yard they give the alarm. This is the simplest, cheapest, and the best plan I know of. I know it will work, for we had such an arrangement attached to our barn-door, and it saved us a splendid span of horses at one time, and at another some wheat, that a man wanted to get from a bin in the barn. ALEX. WILDER.

West Sumner, Me., Feb. 15, 1879.

I started on a small scale with 2 good colonies of Italians. I put them in the cellar in good condition, but I find in one hive numbers are dying. I put a woolen quilt over the top of the frames and they are warm and have plenty of honey; the strongest colony has the most dead bees. Will going into the cellar with a light serve to kill them? Is it right to keep the bottom board dry and clean from dead bees? I have taken nearly one quart of dead bees from the strongest colony, while the other has none! Do I keep them too warm? Is it natural for so many to die through the winter? E. W. CHANDLER.

[Premature death of the workers and dysentery seem to be quite prevalent this winter. If done very quietly, it will do no harm to clear the bottom board of dead bees once in a while. Some think it matters but little whether it is cleared or not. Light, or anything that disturbs them, will serve to aggravate the disease. About 40° fahr. is a good temperature for the place containing bees in winter. Colonies cannot be injured by the use of a blanket. Very few bees die in winter, when all are healthy.—ED.]

Winterset, Iowa, Feb. 8, 1879.

Many colonies have been lost in this section, owing to the long cold spell just passed. Some few hives were closed up by the frost, while some used up their honey and starved. Some have dysentery and foul brood. For two weeks quite a number have been rearing brood nicely—considering the time of year. MOSES BAILEY.

Austin, Minn., Feb. 5, 1879.

I started last spring with 20 colonies in Langstroth hives. I divided them till I had 37, and obtained a little over 1000 lbs. of comb honey. I sold colonies down to 15, which are now in the cellar, wintering finely. The thermometer there has not varied 4 from 40° all winter. The season was not a very good one. Minnesota will be a good honey-producing state, for the soil is well adapted to white clover, which continues to bloom during the season. It also has a magnificent range of golden rod.

FRANK A. TICKNOR.

Fort Calhoun, Neb., Jan. 10, 1879.

Up to the present time my bees have passed the winter in good condition. I have about 90 colonies on their summer stands, in double-walled hives with one or more thicknesses of carpet over the frames and under the cap. I have about 20 colonies in out-door cellar, so far, doing well. Bees did not gather a very large amount of surplus honey the past year, so that, in connection with the very low price of honey in the market (12 to 15 cents per lb.) the profits of bee-keeping have been rather small. Owing to the low price of honey it is ceasing to be looked upon as a luxury, and is becoming a staple article of consumption.

HIRAM CRAIG.

Visalia, Ky., Feb. 9, 1879.

I am wintering bees on their summer stands, by taking out all but from 4 to 6 frames of combs, using division boards and filling in between them and the walls of the hive with sawdust, and a sack of chaff on top. Although the thermometer at several times indicated 19° below zero, I have not lost a colony. How much drone comb, in proportion to worker comb, ought to be put in a hive in the spring, in ordinary circumstances? F. B. THRELKELD.

[The less drone comb the bees have, the better.—ED.]

Neosho Rapids, Kan., Feb. 3, 1879.

I began the season of 1878 with 6 colonies, 2 Italians and 4 blacks, which increased to 22 colonies. I got 300 lbs. of comb honey from my Italians, but none from my black bees. My bees had a good fly Jan. 18. I cleaned off the bottom board, and found 2 dead queens and 2 colonies dead, 1 frozen the other starved. I think the Italians better than the blacks. I increased by natural swarming. I would not be without the BEE JOURNAL for three times its cost. I think all who have bees should take it. I wish it success. N. DAVIS.

Augusta, Me., Feb. 12, 1879.

The winter has been cold here. For 3 years the seasons have been poor for honey; the bees therefore are in poor condition for winter. Many bee-keepers here do not protect their bees from the cold; and such will lose many. Maine has but few bees, when compared with other states. Aroostook is a new county, but is noted for its honey and in it is raised more than in all the other counties of the state together. Success in producing honey lies in keeping all the colonies strong and in doing the right thing at the proper time. Success to the JOURNAL.

ISAAC F. PLUMMER.

Rulo, Neb., Feb. 7, 1879.

We have had a very long cold spell of weather. The murcury for several days was 16° below zero; and from the 14th of Nov., 1878, until the 20th of Jan., 1879, the bees were not able to fly. The entrances of such as did not face to the south froze up entirely, and a sheet of ice formed all round the inside of the hives, except where the rays of the sun struck them with the most force, preventing all egress, and rendering it necessary to remove the covers when the weather moderated. The inside of the covers was coated with ice, yet the cushions had protected the bees from the cold so well that we lost but 4 out of 221, and these were in hives in which the center frame was not well filled with comb, virtually preventing the bees from passing to the warm side of the hive and eventually they froze dead from the extreme cold. Symptoms of dysentery were developed in all the colonies, and had the weather continued cold, or had not the bees been released from the hive when the weather became suitable for them to fly, we should have had as disastrous results as formerly. I think hereafter we should put cushions on, not to absorb the moisture of the bees, but to

retain the heat; that hives should face to the south; that the entrances may remain open, and the bees be enable to pass around the warm end of the frames on to other combs, when their supply of honey is exhausted, and that, when we select a site for an apiary, there should not be anything left to obstruct the rays of the sun in the winter; that the surface should be level and the hives near the ground for warmth with the rear slightly elevated in the winter to cause moisture to pass freely out of the hives. Bees arranged in this manner may, with little care, be wintered out of doors with the best of success, even if there are cracks in the hive wide enough to enable them to pass freely in and out and the hives are exposed to the severest weather.
JEROME WILTSE.

Coushatta, La., Feb. 5, 1879.
An incident occurred in our parish several years ago. I will give it as my friend, Mr. G. W. Singleton, a gentleman of undoubted veracity told it to me. He said: "Several years ago in the month of November, I took one of my hives and killed the bees, as I thought with sulphur. A little boy playing around covered up the apparently dead bees in a hole in the ground by putting some dry leaves on them and covering over with dirt, saying that next spring he would hive them. The following spring after a severe winter, I took a hoe on a warm day and uncovered the bees, and to my astonishment the bees were not dead and began crawling and flying around."
L. M. HOWARD.

[There must be some mistake about this, for bees could not live so long without food, even if they were not killed by the sulphur.—ED.]

Bell's Station, Tenn., Jan. 28, 1879.
Bees here are generally wintered on their summer stands; but this season there is a heavy loss. Some have lost one-half and others all of their bees. I have heard of but one bee-keeper in this neighborhood who has lost none, but myself. I examined my bees to-day and find plenty of eggs, capped brood and honey. If nothing prevents, my bees will be strong by the time of the first harvest. The BEE JOURNAL is a welcome visitor here.
JOHN H. SMITH.

Lawson, Mo., Feb. 12, 1879.
I started Feb. 10, with J. L. Smith to Kansas City to sell our honey, &c. We visited severel bee-keepers while we were gone and found that they had left the bees on their summer stands and many have perished, and the dysentery ravaging the balance. Upon arriving home, I found my house and its contents a pile of ruins, having been destroyed by fire in my absence. Last fall I put 80 colonies in the cellar and packed 15 with straw, and they are doing well, only one showing signs of dysentery. I prefer the packing in straw for this climate; it is so easy to give them a fly on any warm day in winter. It has paid me well for the small amount of labor expended last fall in putting them up.
F. B. CAMPBELL.

Lansing, Mich., Jan. 21, 1879.
I most fully appreciate the honor of being appointed V. President of the National Association for Michigan. I believe the Association is a power for good in the country and may become even more so in future. I will do heartily what I may to aid. I congratulate the Society in its happy selection for President, which is a bright omen for its future usefulness.
Very truly,
A. J. COOK.

Youngsville, Pa., Feb. 11, 1879.
Allow me to express, through the medium of your excellent JOURNAL my acknowledgments of the honor conferred on me by the National Bee-keepers' Association, in electing me as one of its Vice Presidents, in, and for this noble old commonwealth, the keystone of the federal arch. Christianity and patriotism prompt me to feel a degree of pride in my native state, with its vast agricultural and mineral resources. Her mountains are filled with iron and coal, and her valleys pour out rivers of oil. I might modestly intimate how much of strength, warmth and light, she has furnished to the inhabitants of earth, but, as it would not be strictly a bee article, I will desist. When a boy, 32 years ago, my brother and I gave our five shining silver dollars for a colony of bees in a section of a hollow log, and brought it home in triumph; we little thought of the proportions to which the science of bee culture would grow, in these swiftly passing years. From the hidden wonders contained in those rude structures called gums and skeps, where we could only guess as to the condition of things within; with bees as dark as the shades of night and little honey fit for the table; we have passed to movable comb hives made in a workman-like manner and protected with durable paints, stocked with beautiful yellow Italians, and tons and tons, of white comb and extracted honey, free from pollen and some that we know of, is free from glucose, or any other abomination. It is this growing interest of our country that the National Association proposes to foster, and I therefore cheerfully accept the position assigned me, in the hope that I may do my part to add to its interest and usefulnsss.
W. J. DAVIS.

[We hope all the Vice Presidents will not only by every possible means help on our art, and develop its resources, but also will attend our next Annual Convention, which now promises to be the most important and interesting bee meeting ever held on the American Continent. We already have indications that it will be far more largely attended than any previous meeting.—ED.]

Jordan's Springs, Va., Feb. 6, 1879.
I have 94 colonies of native and Italian bees. All have gone through our hard winter without the loss of any. I would not give the Langstroth hive for all others combined. I sold all of my 1st, 2d and 3d grades of honey for 25c., 20c. and 15c. It goes to Washington, Baltimore, Philadelphia, New York, St. Louis and Chicago. I sent samples of my honey to the great fair at St.

Louis, in 1873, and took the highest premiums. I received a beautiful diploma. During the warm spell a short time ago, I fed my bees abundantly with partly ground rye flour; they consumed large quantities of it. It certainly keeps bees from robbing.
E. C. JORDAN.

Garland, Pa., Dec. 9, 1878.

I wintered 51 colonies but really began the season of 1878 with but 50, for one of the strongest came out queenless and was united with another. I think I killed the queen while changing the combs from one hive to another, late last fall. The yield of honey was not large, and I have to credit the raspberry and clover with all we have; the basswood failed to bloom this season, as it does each alternate year. I am experimenting in wintering on summer stands, some in chaff and others partly in chaff, with a glass window in the front of the large box to allow the sun to shine directly on the front of the hive.
JNO. F. EGGLESTON.

Westfield, N. Y., Jan. 21, 1879.

1. What is the reason of bees not going into boxes to work when the hive is full and there is a plenty of honey and bees?

2. How can I get my bees to build worker comb without the use of foundation? I have too much drone comb in some of my hives; if I take it out they will build drone comb as before.

3. Will it pay to raise queens where natural swarming is allowed?

4. Would you advise rearing queens from worker larvæ?
F. HARDINGER.

[1. If honey is plenty in the flowers, bees will generally work in the boxes readily, unless they have too much honey below. In that case, contract the brood chamber by using division boards, taking out some of the frames of honey.

2. The best combs are built by colonies not too large, and at times when the honey flow is not too abundant.

3. No; unless you wish to change the blood of your colonies. If you do, then change capped queen cells.

4. We prefer to start with the egg; if larvæ, the very youngest.—ED.]

Richmond, Tex., Jan. 28, 1879.

We have no trouble packing bees in chaff or carrying them in cellars, in winter here. They are only confined to their hive by cold weather a few days at a time. Mine were kept in 3 weeks at one time this winter, but are now working lively on the wild peach that grows in our bayou bottoms. What a pleasure it is to the bee-keeper to see his bees come in loaded with pollen especially as early as January 24. Last season was a poor one with us. We had no honey of any consequence till golden rod and smart weed came in, of which there is an abundance in the bottoms. I had 70 colonies last fall, and lost but one, and that by robbers; all Italians. I tried comb foundation last season; I like the 1 lb. sections. I use the Langstroth hive. Bee culture in our state is yet in its infancy, but ere long bids fair to compete with some of the older states; especially those so far north where the bees are housed 6 or 8 months out of the year; ours work 10 months.
J. W. ECKMAN.

Lincoln, Neb., Feb. 18, 1879.

Much has been said in praise of plants for their good honey producing qualities, when that is the only quality for which they deserve merit. The plants that will be most profitable to the average bee-keeper are those that are worthy of cultivation regardless of bees. Among these are buckwheat, mustard and rape, the latter of which is raised in large quantities in the western part of this state. In Buffalo co. it is recorded that 21 acres averaged 45 bushels of seed per acre. The price quoted in the Chicago papers was 2 cents per pound. Those who had raised it claimed it a better crop than corn or wheat as it brought a better price. Have not yet seen any of the depredations of the black flea upon it here. It secretes honey during wet seasons, comes in bloom soon after sowing, and can be sown from early spring until fall with good results. It is especially adapted to the Western countries where clovers and fruits have not become general, to obviate the spring dearth of honey plants and better prepare our colonies for the fall harvest. Last season its bloom seemed much fresher than that of Chinese mustard, and the bees sought it more eagerly, at the same time they took no notice of an acre of mignonette, which on account of wet weather secreted no honey. Buckwheat here is usually neglected by the bees, for during its bloom they find a better harvest from heartsease (*Pologonum persicari*), golden rod, wild sunflower, and a number of other good honey-producing plants.
GEO. M. HAWLEY.

Henry and Wood Counties, O., Feb. 18, '79.

So far as I can learn from personal examinations and inquiry, about 50 per cent. of the bees are dead that were left out of doors. All right in cellars, so far.
DANIEL KEPLER.

Butlerville, Ind., Feb. 20, 1879.

Bees have died at a fearful rate in this locality. In most of the hives where the bees died, they left plenty of honey. Dysentery was the main cause. I for one am opposed to upward ventilation, and here is my reason. I find that those having upward ventilation are in bad condition, while those having no upward ventilation are in good condition. With the upward ventilation the heat of the bees passes off and cold air takes the place of the warm, and protracted cold brings on disease. Upward ventilation may do in warm cellars, where frost never enters. My hives were packed in boxes with dry leaves and straw. If this winter kills all of my black bees and those of my neighbors, I shall clean up the yard and commence with Italians. I esteem the BEE JOURNAL above all the bee papers I read.—All bee-keepers I have talked with are well pleased with it. I don't see how they could be displeased with it.
W. MARTIN.

Business Matters.

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In consequence of the dearth of small currency in the country, we will receive either **1, 2 or 3 cent stamps,** for anything desired from this office.

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We have gotten up a "Constitution and By-Laws," suitable for local Associations, which we can supply, with the name and location of any society printed, at $2 per hundred copies, postpaid. If less than 100 are ordered, they will have a blank left for writing in the name of the Association, etc. Sample copy will be sent for a three-cent postage stamp.

Our answer to all who ask credit is this: We sell on **small** margins, and cannot afford to take the risks of doing a credit business. If we did such a business, we should be obliged to add at least 10 to 20 per cent. more to our prices, to make up for those who would never pay, and to pay the expenses of keeping book-accounts with our customers—this we know our **Cash** customers would not think to their advantage.—This rule we must make general in order not to do injustice to any one. The cash system gives all the advantage to cash customers, while the credit system works to their injury. In justice to all we must therefore require **Cash with the order.**

☞ We have agreed to attend the two Conventions in Kentucky, next May. One in Gainsville, on the 1st, and the other in Lexington on the 6th.

☞ A meeting of bee-keepers will be held at Lansing, Mich., on March 7th, for the purpose of organizing a County Convention. All interested in bee culture in that vicinity are requested to attend.

☞ The next annual meeting of the Northeastern Bee-keepers' Association, will be held in Syracuse, March 11, 12 and 13, 1879. L. C. ROOT, *Pres.*
J. H. NELLIS, *Sec.*

☞ By an oversight, on page 94 of the JOURNAL for February, the address of Mr. R. M. Argo, was given as Louisville instead of "Lowell, Ky." If any one answered that advertisement, and addressed to Louisville, they will please write to Mr. Argo again, at Lowell, Ky.

☞ The *Southern Farmer's* Monthly published at Savannah, Ga., is a model of neatness throughout, and it contains such a variety of matter that it is almost an indispensable article for the Farmers of the South. It is but seldom that we see a paper printed so nicely, and upon such elegant paper. We wish it success.

☞ Mr. Wm. Clement, who has exposed the fraudulent transactions of Mrs. Lizzie Cotton, who has been swindling bee-keepers for years, wrote to a person at West Gorham, Maine, asking information concerning her. The answer says that her husband, C. B. Cotton, advertises in her name, and should be held reponsible for all that is done whether correct or not. He should be compelled either to do business upon business-principles, or to be driven from the field of operation entirely. Complaints are numerous, and all should refuse to do business with him.

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Local Convention Directory.

1879. *Time and Place of Meeting.*

March 11-13—Northeastern, at Syracuse, N. Y.
April 1,—Central Illinois, at Hillsboro, Ill.
3.—Northwestern O., at Napoleon, Henry Co., O.
May 1.—Southern Kentucky, at Gainsville, Ky.
6.—Albany County, N. Y., at Clarksville, N. Y.
6.—Central Kentucky, at Lexington, Ky.
6-7.—West. Ill. & Eastern Iowa, at Hamilton, Ill.
8-9.—Muscatine District, at Muscatine, Iowa.
21.—North Missouri, at McCredy, Callaway Co.
28.—North-Eastern Wisconsin, at Hartford, Wis.
Oct. 21.—National Convention, at Chicago, Ill.

☞ In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

Original Bingham Smoker Corner.

We have arranged a movable cold-blast or rag-burning attachment for all sizes of Bingham Smokers and will send it post-paid to any one on receipt of 25 cents, and the diameter measure of their smoker. This is the most perfect application of the cold-blast principle which can be made, and we have put it in the patent office that we may have the credit of the application, and some other improvements which we have made. Mr. Corey suggested the principle, and speaks of the soothing effects of cold smoke. All our new smokers will be provided with the movable cold-blast attachment until fully tested (no extra charge). They will burn anything combustible, and rags, &c., slowly. The attachment can be removed without injury or trouble should cold-blast prove of no practical value.

Address, T. F. BINGHAM, Otsego, Mich.

Open Letter to MR. JOHN G. COREY, *Santa Paula, Cal.*

Otsego, Feb. 18th, 1879.

Mr. Corey—Dear Sir: I have the pleasure of mailing to your address, this day, one of my large size bee smokers, in which I have arranged and developed the principle you have so generously donated to the bee keepers of America. How far superior cold smoke may prove to that heretofore used, time and extensive use alone can determine. To facilitate such practical experiment without possible loss, should it prove of no real value, I have constructed the attachment contained and shown herewith, which can be used, or removed without trouble or expense, as may be desired.

I was pained to receive so unmerited a slur from a practical bee-keeper; one of a class of citizens whom it has ever been my greatest desire to benefit, and among whom it has ever been my pleasure and pride to associate.

I have a patent, it is true, covering my smoker, but it has not raised the price of smokers, neither has it debased their quality; but, on the contrary, has done just what the framers of the patent law designed it and all other real improvements should do, viz.: placed within easy reach of the user or consumer, the best quality of goods at a reasonable price.

Respectfully yours, T. F. BINGHAM.

TO EXCHANGE.—Standard Langstroth hives (new, never used) for bees, 1st swarms, or in box hives. Address "WILL," care of AMERICAN BEE JOURNAL.

☞ A club for the BEE JOURNAL may be sent all to one post office or to as many post offices as there are names in the club.

☞ Those wishing a Premium Queen for getting up Clubs will now please send *five* subscriptions and $7.50, and we will send them a choice queen in July.

☞ Should any forget our address when on a visit to Chicago, they can easily procure it by consulting the City Directory to be found in almost every hotel and store.

☞ The Rev. E. L. Briggs will deliver a lecture before the Bee-Keepers' Convention in Muscatine, Iowa, on May 9, 1879.

HEARING RESTORED. Particulars FREE. Verry & Harper, Madison, Ind.

Italian Queens or Colonies.

Eighteen years experience in propagating Queen Bees from imported mothers from the best districts in Italy. Persons purchasing Queens or Colonies from me will get what they bargain for. Send for circular.

WM. W. CARY,
3-tf Colerain, Franklin Co., Mass.

ITALIAN BEES.

50 Colonies of Italian Bees for sale cheap.
3-tf WM. J. ANDREWS, Columbia, Tenn.

LANGSTROTH HIVES,

Prize Section Boxes and Frames at Low Prices. Any other pattern of Hive made to order. Send for Price List, to **DUNN & STEVENS.**

Ref. } First National Bank, MONMOUTH, ILL.
} T. G. McGaw, " " 3-6

Choice Northern Grown Seeds,

Bulbs, Roots and Plants for all purposes. Choice Queens. Garden and Apiarian Implements and Supplies, Books, Papers, &c., of all kinds. *Prices reduced.* Write for large Catalogue, or for what you want. Address carefully, CHAS. F. LANE,
3-1t Milton Junction, Wis.

BEFORE

purchasing colonies with imported queens, or home-bred queens, Italian queens, COMB FOUNDATION, and implements in bee culture, write for circular with prices, and sample of comb foundation free, to
CHAS. DADANT & SON, Hamilton, Ill.

CHEAP BEES,

In good, new, movable comb hives at $5.00 each. Queens, hives, sections, &c., at reasonable prices, but not to give away. No chromos offered! Refer to 1st National Bank, and Express Agents.
E. A. GASTMAN, Decatur, Ill.

Herbert A. Burch & Co.'s Full Page.

Up with the Times.

Fully realizing the present low price of all commodities, and believing the low price of honey calls for the LOWEST RATES on APIARIAN SUPPLIES, we have reduced margins and cost of manufacturing, and invite the attention of bee-keepers to the following prices. The QUALITY of our goods is UNEXCELLED.

Italian Queens.

Untested Queens, each	$1.00
“ “ per half dozen	5.75
“ “ “ dozen	11.50
Warranted “ each	1.50
“ “ per half dozen	8.00
“ “ “ dozen	15.00
Tested “ each	2.50
“ “ per half dozen	13.00
“ “ dozen	25.00
Selected tested Queens, each	3.50
Imported “ “	4.50

Nucleus Colonies.

1 Nucleus Colony	$3.00
6 “ “	16.50
12 “ “	30.00

Comb Foundation.

10 pounds, per lb	53 cts
25 “ “	52 cts
50 “ “	50 cts
100 “ “	48 cts
500 “ “	45 cts

Tin Separators.

For Langstroth frame per 100	$2.50
“ “ “ “ 1000	24.00
“ American “ “ 100	2.00
“ “ “ “ 1000	18.00
“ Novice Section “ 100	2.00
“ “ “ “ “ 1000	18.50

Broad Frames.

Material complete, per 100	$2.50
“ “ “ 1000	22.00

Prize Boxes.

Material for Prize Boxes, per 1000	$5.75
“ “ 2000 to 4000 “	5.50
“ “ 4000 to 8000 “	5.25
“ “ over 8000 “	5.00

Dovetailed Sections.

Material 4¼x4¼ in. per 1000	$7.00
“ “ 2000 to 4000 “	6.75
“ “ 4000 to 8000 “	6.50

Our New Section.

Material complete per 1000	$5.25
“ “ for 2000 to 4000 “	5.00
“ “ “ 4000 to 8000 “	4.75
“ “ “ over 8000 “	4.50

Bee Hives.

Langstroth hives 10 to 15, each	.80
“ “ 15 “ 25 “	.75
“ “ 25 “ 50 “	.70
“ “ 50 “ 100 “	.65

We furnish above with our new surplus arrangement, the best in use at these rates:

Material for Langstroth hives and Supers, complete, 10 to 15, each	.85
“ “ 15 “ 25 “	80
“ “ 25 “ 50 “	.75
“ “ 50 “ 100 “	.70

Burch's Honey Extractor	$8.00
Wax Extractor	3.25
Shipping Crates for prize boxes, per 100	9.00
Burch's Queen Cage, per dozen	1.00
“ “ “ sample by mail	.12
Sample of comb foundation, prize box or section, each	.6

Above is a fair sample of our prices. We sell many other articles, however, which are useful to bee-keepers. Send for our descriptive 40-page Catalogue, which contains VALUABLE INFORMATION to all bee-keepers. After reading it, we feel sure that you will find it to your advantage to order your SUPPLIES for the Apiary of

HERBERT A. BURCH & CO.,

South Haven, Mich.

For Sale!

AN APIARY, cheap.

FULL COLONIES, $4 to $8 for best.

QUEENS, June, July, Aug., $1.50.

Bingham Smokers and Knives, at regular prices.

HIVES, Improved Langstroth, $2.50, complete.

GLASS, for honey boxes, &c., per bx, $2.50.

Extractors, Section Boxes, Comb Foundation, Labor-Saving Registers, Bee-Veils, &c., at bottom prices.

Send Postal Card for Descriptive List and Prices.

JAMES HEDDON,

DOWAGIAC, MICH.

ITALIAN BEES.

Price-current in gold, for the year 1879, of the Apicultural Establishment of L. R. Lambertenghi, Bergamo and Gorlago, Italy.

For the United States, North America.	April, May and June.	July and August.	Sept. and October.
A—Fecunded Queens, pure race, with the necessary accompaniment of bees, post free to New York :			
For an order of 1 Queen................	$8 50	$8 00	$7 50
" " 2 " ....each	7 00	6 50	6 00
" " 3 " .... "	6 00	5 50	5 00
" " 4 " .... "	5 00	4 50	4 00
" " 5 " .... "	4 00	3 50	3 00
" " over 5 Queens... "	3 50	3 00	2 00
B—Swarms, or colonies, post free to New York :			
For an order of 1 swarm or colony...	11 00	10 50	9 50
" " 2 to 5 colonies, each..	9 00	8 00	7 00
" " over 5 " " ..	7 00	6 00	5 00
C—Common hives, post free to N. Y.:			
For an order of 1......................	14 00	....	14 00
" " 2 to 5, each	12 00	....	12 00
" " over 5, "	10 00	....	10 00
D—Hives with movable combs, post free to New York :			
For an order of 1.........................	16 00	....	16 00
" " from 2 to 5, each.....	14 00	....	14 00
" " over 5, "	12 00	....	12 00

The transport post free to New York, from thence continues to its destination at expense of the person who gives the order. For an order of *ten* articles an *eleventh* is included gratis, as a recompense in case of eventual loss during the voyage. An order letter A for more than 25 Queens at a time is entitled to a discount of 5 per cent., and one for more than 50, a discount of 10 per cent. The necessary nutrition for the voyage and packing is included in the price. I guarantee for the purity and fertility of the Queens that I send, it being my interest to merit your commands. The order must be accompanied with its relative *sum anticipated*, or at least a half for those given a month or two back, paying the other half at the appointed date before the exportation. Postoffice orders, either international or consular, offer the easiest and securest way of payment. In order to fulfil everything according to the wish of those who honor me with their commands, I beg the same to forward me as early as possible their orders, with their precise address, that of the post office, and nearest railway station or sea port, indicating at the same time the commission agent with whom they wish their goods to be left on their arrival in New York, to be reforwarded to their destination. With profound respect,

LUIGI RUGGERO LAMBERTENGHI.

Sweet Home Raspberry.

For COMFORT and HEALTH every garden should supply its owner with FRUIT ; it is the foundation and beginning of happiness ; it makes the countenance brighten, the world look gay, delightful and sunny ; it makes happy homes, and healthy, cheerful people to live in them.

For hardiness, easy culture, quality of fruit, early and constant bearing, there is none that equals the *Black Raspberry*. It has been wonderfully improved by cultivation and crossing.

In 1873 I produced a seedling of Lum's Everbearer, which is still growing near my front gate. In 1874 and since, it has been admired by all visitors for the great amount and large size of its fruit.

Having the peculiar *sweetness* of its parent, it makes it the most *delicious berry* for the *table, preserving* or *jelly*. It being the *firmest* berry grown, makes it the *best* for *canning* and *drying*.

The SWEET HOME canes grow *upright* and *stocky;* but few thorns ; increased from tips ; never has winter-killed ; ripens two weeks later than Doolittle, and continues till blackberries ripen ; the fruit continues to hold its large size till the last picking. It bears such *immense crops* that the canes must be cut thoroughly back or tied up, or it will be as one fruit man said when beholding it, "*Loaded to the ground.*" We have picked from *one cane* of SWEET HOME, *one thousand and fifty* (1,050) berries, filling 3 quarts ; there were two more canes from the same root.

The clusters, as seen in the colored fruit-plate of SWEET HOME, average from 25 to 30 berries each. Their large size and firmness, together with the closeness of the berries in a cluster on the outside of the bush, enables me to get them *picked for one cent less per quart* than other varieties.

The editor of THE AMERICAN BEE JOURNAL, or any of the following persons, may be written to in reference to my reliability, or qualities of SWEET HOME :

Being a general merchant of New Boston, Ill., I have handled many varieties of raspberries. The past season I have sold, among others, the SWEET HOME, and found it *superior* to all others in *size, flavor* and *firmness*. Their firmness will enable them to be shipped a long distance with less shrinkage and *keep one day longer* in market than any other variety we have handled. I have spoken for Mr. Palmer's whole crop of SWEET HOME raspberries next year.
C. A. BALLARD.

We, the undersigned, members of the New Boston Cornet Band, on the 4th of July last visited the berry plantation of Sweet Home ; we there saw many varieties, our eyes and appetites doing justice to test their variations. *The stocky canes of Sweet Home were loaded to the ground with the largest, best flavored berries we ever saw.*

O. H. BELL, F. SWERTFEGER, W. B. DANFORD,
ED. ALYEA, MOZART DANFORD, GEO. SIGNOR,
WM. HUNT, J. BELL, LLOYD MYERS.

I grow and handle fruit ; have ordered 1,000 plants of SWEET HOME. Their flavor, size, firmness and *freeness from bleeding* (the less bleeding of juice the longer they will keep from souring), will make them *very valuable* for shipping and handling.
CAPT. H. B. SOUTHARD.

T. McWhorter, of Aledo Nursery, this county, in his circular of nursery stock says : "Sweet Home—Valuable ; well tested on my own grounds."

The Sweet Home raspberry has done finely ; bush grows *thrifty* and *stocky:* berries *very firm* ; ripens from 12th to 31st of July ; *size decidedly larger than any other black cap* I have seen. Should call it a fine berry for marketing. E. W. BREWSTER.
Kingston, Plymouth Co., Mass.

The following is from the father of bee-keeping in this county. He runs from 200 to 300 colonies of bees, also considerable fruit :

I never saw the Sweet Home equaled in size of berry. The *bushes* were *loaded to the ground* with the *most delicious* finely flavored berry I ever ate. I shall set largely of Sweet Home this season.
Eliza, Mercer Co., Ill. JESSE BOGART.

We sold all the plants we had to spare last season, and now offer you by mail 1 strong plant for 25c.; 12 for $1.50 ; 100 for $6.00 ; by express, 1,000 for $30.00. Colored Fruit-Plate 9x11 of Sweet Home for 20c.

Doolittle, Mammoth Cluster, Miami, Seneca, Davidson's Thornless, Golden Thornless, 10c. each, 60c. per dozen, by mail ; $1.50 per 100, $10.00 per 1,000 by express.

Ganargua, Lum's Overbearer, Philadelphia, Brandywine, Turner, 15c. each, $1.00 per dozen, by mail.

Address, **D. D. PALMER,** New Boston, Ill.

Marblehead Mammoth Cabbage.

There being a good deal of seed in the market raised from very poor stock, which must fail to give satisfaction, having been the original introducer of the Giant Cabbage, which when raised from the right strain of seed, under proper cultivation, has been grown to weigh *over* 60 *pounds* to a single plant, and 60 tons to the acre, I now offer to the public seed that has been raised by myself, with peculiar care, all of it *from extra large, extra solid heads.* The Marblehead Mammoth is not only the largest, but is one of the most crisp and sweetest of all varieties of the cabbage family, as will be seen by extracts of letters to be found in my Seed Catalogue, where my customers state that they have raised cabbages from my seed that have weighed 40, 45 and 50 lbs. each. Full insructions for cultivation sent with every parcel of seed. Seed per lb., $5.00 ; per ounce, 50c.; per half ounce, 25c. My large Seed Catalogue sent *free* to all applicants.

JAMES J. H. GREGORY, Marblehead, Mass.

EUREKA.

Go West, young man ; go West ! where you can get the best Foundation at lowest rates : 5 to 50 lbs., cut any size not larger than 9x18, 50c. per lb. ; wax in lots of 25 lbs. or more, worked up at 20c. per lb. ; less than 25 lbs., at 25c. Also have 40 colonies of Bees, in frame hives, for sale at $4.00.

F. J. FARR, Independence, Mo.

The American Young Folks

In its 5th year, an *Illustrated 16-Page Paper for Boys and Girls, Published by*

HUDSON & EWING, TOPEKA, KANSAS.

Over 10,000 Teachers of Public Schools, from Pa. to Cal., pronounce it the best and cheapest paper for Boys and Girls. It is pure and elevating in character, bright, instructive and interesting. Sent postage paid, one year, to any address for 50c. Sample copy free.

SECTIONS, $6.00 per thousand.

F. L. FURBISH,
Grand Rapids, Mich.

BEST OFFER OUT.

ISAAC F. TILLINGHAST, Seedsman, Factoryville, Pa., offers to send a copy of the Latest and Best Book on Practical Gardening, entitled "Vegetable Plants," and your choice of seeds from his list to the amount of fifty cents, all postpaid for fifty cents. The book alone is worth many times the money, and the seeds are warranted fresh and genuine. Send your address on postal card for his Illustrated Catalogue, which is free.

1879 1879.

Italian Queens, Nuclei and Colonies,

Bred and reared in full strong Colonies. Queens and Drones from selected mothers.

Single Queen, Tested	$2 00
Single Queen (laying), Untested	1 00

On all orders for 10 or more Queens I will pay express charges, except to States west of Rocky Mountains.

1 Langstroth frame Nucleus	$2 00
2 " " "	2 50
3 " " "	3 00
8 " " Colony	6 00

Nuclei and Colonies in nice white pine hives. One Dollar more when containing Tested Queen. Send money by P. O. Order or Registered Letter.

Orders promptly filled and safe arrival guaranteed.

Address, W. P. HENDERSON,
3-6 Murfreesboro, Tenn.

CLETHRA ALNIFOLIA,

(*Or, SWEET PEPPER*),

FOR BEE PASTURE.

Always known to be good by the Bees, but recently admitted to be the best by MAN. The honey is white, thick and very sweet. Perfectly hardy, blooms at 1 to 8 feet high, from July to Sept., when other flowers are scarce ; grows where corn or the hazel-bush will ; transplants safely in this latitude in April and May, or from October to December.

PRICES—Small layers, 6 to 12 inches long, by mail, $1.50 per doz., or $10.00 per 100 ; or blooming plants, 3 for $1.00, or 12 for $3.00. By express, for strong layers and blooming plants, $3.00 per doz., $10.00 per 100, or $50.00 per 1,000. Remit by bank check on some Boston bank, postal order on postmaster at Boston, or registered letter. Illustrated Circular and Reading Nursery Catalogue free by mail. Address,

3-4 JACOB W. MANNING, Reading, Mass.

Material Ready to Nail !

For Prize Boxes, sawed from white basswood or pine, one side planed smooth by machine, to fit glass 5x6 inches or less :

In lots of 500 to 5,000, per 1,000	$7 00
" more than 5,000, per 1,000	6 00

Material for Cases, according to size ; material for Improved California Boxes, sides put together, according to size. SEYMOUR RUGGLES,
3-tf Saratoga Springs, N. Y.

DUNHAM

FOUNDATION MACHINE !

And also everything of any practical value in the Apiary : Hives, Sections, &c. Samples of Foundation made upon the above machine FREE. Circulars sent on application.

FRANCES DUNHAM,
Depere, Brown Co., Wis.

DO YOU KEEP BEES

Or expect to ? Then subscribe for the BEE-KEEPERS' EXCHANGE, a spicy, illustrated monthly, edited by a practical Bee-Keeper. Only 75c. a year, post-paid. Sample copy free. Address

3 **J. H. NELLIS, Canajoharie, N. Y.**

BEFORE

purchasing colonies with imported queens, or home-bred queens, Italian Queens, COMB FOUNDATION, and implements in bee-culture, write for circular with prices, and sample of comb foundation free, to

CHAS. DADANT & SON, Hamilton, Ill.

ITALIAN QUEENS,

1879.

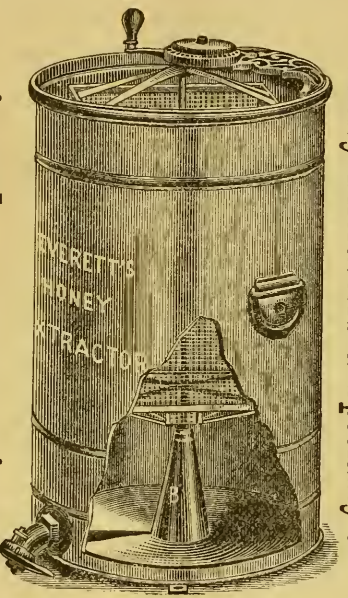
Price, April, May and June.... ....each, $3 00
" July, August and September........ " 2 00

STANDARD OF PURITY.

All Queens guaranteed to be of good size, vigorous and producing workers large and uniformly marked with three distinct yellow bands, of fine golden color.

We shall have a shipment of fine *Tested* Queens, from Italy, in April, selected for our Apiary.

No Circulars. [2-tf] A. F. MOON, Rome, Ga.



Honey Extractors a Specialty!

Honey Extractors a Specialty!

SENT FREE, a 16-page illustrated circular and price list of honey cans, honey extractors, wax extractors, hives, section boxes, smokers, knives, honey jars, something new, Italian bees and queens, &c.

3tf EVERETT BROS, Toledo, O.

VALUABLE INFORMATION FOR THE FARMER.

Next to the system of rotation in crops, the *most important discovery* yet made in Agriculture. *Without any outlay of money*, an *increase* of from 25 to 50 per cent. can be obtained in the crop of MARKETABLE

POTATOES

Proved by two years' experience. *Costs nothing* but time during Winter or early Spring to prepare the seed. Full directions sent for $1, payable after trial, at maturity of crop. ISAIAH T. CLYMER, Quakertown, Bucks Co., Pa.

Stabilimento D'Apicoltura

OF

PIETRO PILATI,

Strada Stefano 88, *Bologna, Italy.*

	April, May, June.	July, Aug.	Sept.,Oct.
1 Queen........	11.50 francs.	9 50 francs.	6 francs.
6 "	66 "	55 "	35 "
12 "	130 "	108 "	68 "

I guarantee purity, prolificness and safe arrival. Should any die *en route*, they will be replaced. The value of a franc is 18¾ cents in gold. I solicit American orders.

IF YOU WANT

Supplies for the Apiary, send for our price-list before making your purchases for 1879. If you want

Comb Foundation of Best Quality,

and for **less money** than heretofore, send for our price-list and learn how 'tis done. We sell **GLASS** for honey-boxes,

Tin Separators, Bee-Smokers, Honey Extractors, Wax Extractors, Honey Knives, Prize Boxes, Sections, Bee Hives, Comb Foundation,

and many other things, all at **astonishingly low prices.**

Italian Queens, Nucleus Colonies and Full Colonies of Italian Bees,

of the CHOICEST STOCK in the country, will be furnished in any quantity, at the lowest living prices.

Our CIRCULAR contains much valuable information, and tells you the **best methods** of introducing queens, artificial swarming, how to secure the

MOST SURPLUS HONEY,

and how to obtain the HIGHEST PRICE for the same. Our arrangements are such that we shall be

HEADQUARTERS

for apiarian supplies during 1879. If you have any doubts on this point, just send us your name on a postal card, and our circular will be forthcoming, showing you how to SAVE MONEY in buying supplies.

Our Motto: The Best Goods at the Lowest Prices.

Address, **HERBERT A. BURCH & CO.,**
1-tf South Haven, Mich.

VEGETABLE AND FLOWER SEEDS

SEEDS

WE SELL EVERYTHING FOR THE

GARDEN

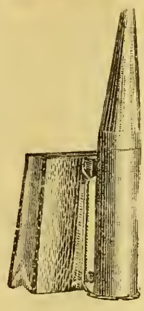
Descriptive Catalogues of 175 pages sent Free

PETER HENDERSON & CO.

35 Cortlandt St., New York.

PLANTS

FLOWER AND FRUIT PLANTS



BINGHAM'S

Bellows Smoker!

(Patented January, 1878.)

Nothing used in an apiary so valuable, so cheap, so handy and essential to success.

Burns any sound, dry wood, and will last ten years.

Extra Large size..2½ inch,		$1 75
The Standard " ..2	"	1 50
Small " ..1¾	"	1 00

Our Dollar Smokers contain our new improvements, and excepting our larger sizes, are the best Smokers ever made. Price 50 cents each by the half-dozen. Can be mailed to Canada.

Send for our Knife and Smoker Circular. Manufactured only by the inventor, **T. F. BINGHAM,**
Otsego, Allegan Co., Mich.

HIVE REGISTER!

will tell you at a glance what your bees are doing. Cheap. Sample and prices for a 3 cent stamp.

J. V. CALDWELL, Cambridge, Ill.

GREGORY'S
SEED
CATALOGUE

My annual Catalogue of Vegetable and Flower Seed for 1879, rich in engravings, from original photographs, will be sent free to all who apply. Customers of last season need not write for it. I offer one of the largest collections of vegetable seed ever sent out by any seed house in America, a large portion of which were grown on my six seed farms. Printed directions for cultivation on each package. All seed warranted to be both fresh and true to name; so far, that should it prove otherwise, I will refill the order gratis. The original introducer of the Hubbard Squash, Phinney's Melon, Marblehead Cabbages, Mexican Corn, and scores of other vegetables. I invite the patronage of all who are anxious to have their seed directly from the grower, fresh, true and of the very best strain. **New vegetables a specialty.**

JAMES J. H. GREGORY,
12—5t Marblehead, Mass.

1865.— **THE** —1879.

HONEY
HOUSE.

C. O. PERRINE, 54 & 56 Michigan Av., Chicago.

As a Manufacturer of

COMB FOUNDATION,

I can say my goods have given entire and universal satisfaction. The ruling low prices were made by me, and any one desiring any considerable quantity would do well to consult me before buying elsewhere.
☞ Market price for Beeswax.

Baker & Co. DESIGNERS — AND — PHOTO ENGRAVERS ON WOOD.
COR. CLARK & MONROE STS. CHICAGO.
DEALERS IN ENGRAVING TOOLS & ENGRAVERS OUTFITS.
ORDERS BY MAIL SOLICITED.

ITALIAN BEES FOR 1879.

This is my 13th year with Italians. I will sell pure tested Queens for $3.00, till July 1st. Full Colonies in Langstroth hives, $10 to $12.00. Nuclei, with 3 full frames, $6.00. Several leading varieties of Poultry. No dollar or unwarranted queens.

2-tf R. M. ARGO, Lowell, Ky.

Pure Italian Queens and Colonies
For Sale for 1879.

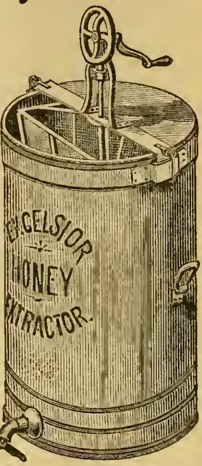
—o—

The best is the cheapest at any price. Circular sent free. Address, D. A. PIKE, Box 19, Smithsburg, Washington Co., Md. 2-5

SMALL FRUITS

15 pages. **Very instructive. FREE TO ALL** applicants. Address PURDY of Palmyra, N. Y

COFFINBERRY'S
Excelsior Honey Extractor.



This Extactor takes any size of frame smaller than 12x20. Larger sizes will be made to order if required. For extracting 4 frames at one time, add $2.00

It is made entirely of metal, and is the best Honey Extractor in the market. It is light, but has attachments for fastening down to a platform. It can be instantly taken to pieces for cleaning, having no screws to take out, nor heavy pieces to lift.

Some of its advantages are as follows: The lower end of the comb basket shaft does *not* revolve in the honey below, even when 60 or 70 lbs. may be there!

The Comb Basket having vertical sides, insures the extracting power alike for top and bottom of frames.

An over-motion and strong gearing is essential to both *ease* of operation and *effective* work.

The handles are strong and attached near the centre, for ease in carrying.

The tin covers close the machine up tightly, keeping it free from dust and dirt when not in use.

It is provided with a small comb-holder for extracting pieces of comb or partly-filled sections.

It has a strainer elevated some three inches above the bottom of the extractor, and entirely covering the canal leading to the honey-gate. This "strainer" can be instantly removed, cleaned and replaced.

The honey receptacle has capacity for 60 or 70 lbs of honey, where it may be allowed to ripen before drawing off, if desired.

THE EXCELSIOR HONEY EXTRACTOR combines all the advantages of other Extractors, and is the *cheapest* thoroughly practical machine ever yet made.

The Comb Basket of this Extractor is made to take either two or three combs, and either will be furnished at the same **Price, $12.00,** crated and delivered at railroad depot or express office.

C. C. COFFINBERRY, Chicago.

Bee Hives.
LANGSTROTH
AND
MODEST,

Single or Double Story.

Oatman's No. 2 and 3 Honey Boxes, Section Frames,

ITALIAN QUEENS,

&c., at bottom rates.

See advertisement in the March number of the AMERICAN BEE JOURNAL.

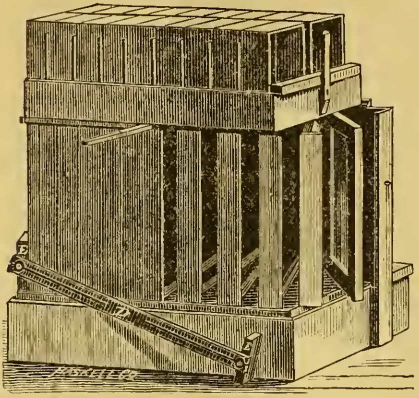
J. OATMAN & SONS,
5-tf Dundee, Kane Co., Ill.

For 75 Cents,

I will send Bee-Keepers' Magazine for 1879, Post-paid.

Smokers, Bee-Keepers' Text-Book, Cook's Manual, and Aparian Supplies, at regular prices.
2-5 E. H. WYNKOOP, Catskill, Greene Co., N. Y.

ARMSTRONG'S



IMPROVED

CENTENNIAL BEE HIVE.

It is the best and most completely arranged hive for all general purposes now in existence. It has been thoroughly tested in every part, and is warranted to give entire satisfaction when given a fair trial. Here is what a practical bee-keeper, of Winchester, says of it :

Winchester, Scott Co., Ill., Feb. 8, 1879.
Mr. Elvin Armstrong, Jerseyville, Ill.:

The hive came all right, and I am much pleased with it. Of the two general forms of hives, the Langstroth and the Huber, I think the Huber, or standing frame, must eventually prevail, for the tendency seems to be to wintering on summer stands (certainly the most convenient way), and these hives are so convenient to winter-pack between the frames and case. Yours is the most convenient form of this hive that I have observed. The convenience of decreasing and increasing the size of the brood-chamber, without extra division boards ; the simplicity and compactness of frames ; but above all, the access allowed to brood-chamber without disturbing the surplus receptacles, give it a great advantage over any other hive that I know of. I do most conscientiously recommend it as *the best hive.*

Yours, respectfully, WM. CAMM.

Send for my new 24-page pamphlet.

Address, ELVIN ARMSTRONG,
Jerseyville, Illinois.

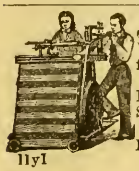
Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send you a sample copy of our

Monthly Gleanings in Bee-Culture,

with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Artificial Comb, Section Honey Boxes,** all books and journals, and everything pertaining to Bee Culture. *Nothing patented.* Simply send your address on a postal card, *written plainly,* to A. I. ROOT, Medina, O.



JOYFUL News for Boys and Girls! Young and Old!! A NEW INVENTION just patented for them, for Home use!

Fret and Scroll Sawing, Turning, Boring, Drilling, Grinding, Polishing, Screw Cutting. Price $5 to $50.

Send Stamp and address
EPHRAIM BROWN, Lowell, Mass.

11y1

"Valentines' Italian Bee-Yard"

ESTABLISHED 1867 !

Send for new Price-List of Imported and Home-Bred Queens, Comb Foundation, Hives, Section Boxes, Extractors and Bee-Keepers' Supplies. Also, high-class Poultry. Queen-breeding a specialty. First Premiums awarded us at St. Louis Exposition for 1879, on best Italian Bees and Honey.

VALENTINE & SON,
1-6 *CARLINVILLE, ILL.*

CHEAP HIVES!

Material, planed on both sides, for a one-story, 8-frame Langstroth, movable-frame hive, with 7-inch cap, including all of material for a complete hive, prepared ready to nail, for 50 cents each.

Nailed and finished complete, 75 cents.

Other sizes proportionally low.

We have improved machinery, specially adapted to this manufacture, and are able to get out a No. 1 hive at these low prices. (THEY ARE NOT POOR BECAUSE CHEAP.) We will also give a liberal discount from these prices on orders of 25 or more at a time. Dove-tailed honey and section boxes VERY CHEAP.

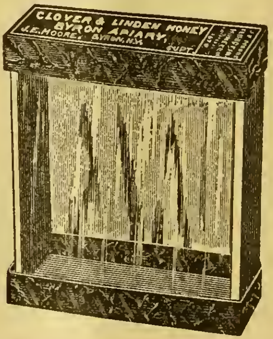
☞ Send for Price-List.

LEWIS & PARKS,
successors to G. B. LEWIS,
12-m6 Watertown, Wis.

J. E. MOORE'S PERFECTION HONEY BOX.

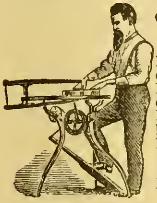
Patented May 7th, 1878.

CIRCULARS FREE,
Address, BYRON APIARY,



J. E. MOORE, SUP'T,
BYRON, N. Y.

BARNES' PATENT
Foot-Power Machinery



CIRCULAR and SCROLL SAWS

Hand, Circular Rip Saws for general heavy and light ripping. Lathes, &c. These machines are especially adapted to **Hive Making.** It will pay every bee-keeper to send for our 48 page Illustrated Catalogue.

W. F. & JOHN BARNES,
Rockford, Winnebago Co., Ill.
junely

Bees !---1879.---Bees !

Full Colonies, Nuclei and Queens Cheap. Supplies furnished. Satisfaction guaranteed. Write for particulars. S. D. MCLEAN & SON, Culleoka, Maury Co., Tenn. 2-7

HEAD-QUARTERS!

We wish thus early, to inform our friends and patrons that we are in the field and

READY FOR BUSINESS!

For the Season of 1879 we shall be the HEADQUARTERS for Langstroth and Modest Hives, Prize Boxes, Separators, and all the necessaries in the bee-keeping line. As we are just a LITTLE AHEAD of ALL COMPETITORS in producing a fine article of COMB FOUNDATION, we shall lead the trade!

Make a note of these points, and write for our NEW PRICE LIST.

J. OATMAN & SONS,
Dundee, Kane Co., Ill.

THE VOICE OF MASONRY AND FAMILY MAGAZINE FOR 1878.

Will be edited as heretofore; will contain 960 pages of Masonic and Family Literature: will be finely illustrated, and will furnish a greater variety of articles from a greater number of contributors than has appeared in any preceeding volume. No proper efforts will be spared in making it, beyond question, the most attractive and valuable volume of a Masonic and literary magazine ever published. Published monthly, at $3.00 per annum, in advance. Single copy, 30 cents. Address JOHN W. BROWN, Publisher, room 12, 182 S. Clark St., Chicago, Ill.

GEORGE GRIMM,

OF

JEFFERSON, WISCONSIN,

hereby respectfully gives notice to the public, that his Circular and Price-List of Italian Bees for the year 1878-9, is ready, and that he is selling at his usual *low* prices. 10-6

1879.--H. ALLEY'S--1879.

Circular and Price-List.

Our Circular, containing information valuable to any bee-keeper, will be ready in December, and sent free to all applicants. It will tell you about Italian and Cyprian bees, one-dollar queens, the Massachusetts bee-hive, section boxes, comb foundation, bellows smokers, how to introduce queens, and in fact will tell you something about almost everything used about the apiary.

I shall use white poplar wood for our section boxes in future. This wood makes the neatest cap in use. Send 3c. stamp for sample. H. ALLEY,
12-tf Wenham, Essex Co., Mass.

AT REDUCED RATES!

1879—Early Italian Queens.—1879.

Imported and home-bred Queens, Nucleus Colonies, Full Colonies. For quality and purity, my stock of Italians cannot be excelled by any in America.

☞ If you want the best Movable-Comb Bee-Hives, suited to the Southern climate, Honey Extractors, Bee-Veils, Smokers, Feeders, Gloves, or bee-fixtures of any kind, send for my new Circular. Address,
1-6 Dr. J. P. H. BROWN, Augusta, Ga.

Italian Queen Bees

FOR 1879.

I shall breed Italian Queens for the coming season, from imported mothers of undoubted purity. Safe arrival and purity guaranteed in every shipment. Prices very low. Circulars sent free. Address,
D. P. MYERS,
aply1 West Salem, Wayne Co., Ohio.

In the Market again with 100 Colonies of

ITALIAN BEES,

with young, fertilized Queens, less than 60 days old, at $5.00 per Colony. We shall continue to rear Queens through the season as usual.

Tested Queens, per dozen	$25 00
Untested Queens, "	10 00

Safe arrival guaranteed. Address,
D. STAPLES & SON, Columbia Apiary,
1-6 *Columbia, Tenn.*

BEFORE PURCHASING

Supplies for your Apiary, send a postal card with your name (and if you will do us the kindness, those of bee-keeping neighbors) for our illustrated circular of Apiarist's Supplies, of every description; sample Sectional Box, and Comb Foundation made on the

Dunham Foundation

machine, which is the latest improvement in that line. We wish to place these samples before

EVERY READER

of this JOURNAL, and hence offer them **FREE**. Just send your name at once. Special attention given to rearing Italian Queens and Bees.

☞ We have secured the general agency of the above machine.

The highest price paid for Beeswax.
1-tf J. C. & H. P. SAYLES, Hartford, Wis.

Foundation Machines.

12 inches wide	$40 00
9 inches wide	30 00
6 inches wide	25 00

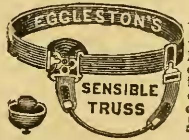
Every machine warranted. On receipt of 10 cents, I will send a sample of the foundation made by the machine.
12-tf JOHN BOURGMEYER, Fond du Lac, Wis.

SPERRY & CHANDLER'S

NORTH STAR HIVE.

There are now over 1,000 of these Hives in use in different parts of the United States, and wherever tried they are pronounced the best Hives before the public for all general and special purposes. We are now prepared to promptly fill all orders for the North Star, or Improved Langstroth, with our patent Manipulating Side. Samples of surplus honey taken from the North Star, as also our hives in use, may be seen at the American Bee Journal office. Send for illustrated circular—correspondence solicited.

Address SPERRY & CHANDLER,
974 W. Madison Street,
Or AMERICAN BEE JOURNAL, Chicago, Ill. 8-tf



THIS NEW

ELASTIC TRUSS

Has a Pad differing from all others, is cup-shape, with Self-Adjusting Ball in center, adapts itself to all positions of the body, while the **BALL** in the cup **PRESSES BACK** the **INTESTINES JUST AS A PERSON WOULD WITH THE FINGER.** With light pressure the Hernia is held securely day and night, and a radical cure certain. It is easy, durable and cheap. Sent by mail. Circulars free.

Eggleston Truss Co., Chicago, Ill.,

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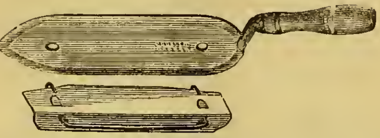
Bingham & Hetherington
HONEY KNIVES!



Are used plain, if the combs are held upright, and with the cap-catcher, if laid on a table. They are not *like any other* honey knife ever made. They are superior in finish and temper, and do much more and better work. *No one can afford to be without one.* Plain, $1.00; with movable cap-catcher, $1.25. Send for Circular for dozen rates for Knives and Bingham Smokers to BINGHAM & HETHERINGTON,
Abronia, Allegan Co., Mich.

Below is one of the many letters received:

Cherry Valley, N. Y., Jan. 5, 1879.

Messrs. Bingham & Hetherington: Dear Sirs:—I received the knives all right, and on account of their *superiority* feel that *you* and *bee-keepers* as well are *entitled* to a *report.* I much prefer it to any knife I ever uncapped with, for the reason that I can *uncap much more* honey. But a *better* test is in the hands of three or four of my men, who used them for several consecutive days, and, without *exception*, pronounced them the best knives I owned. One went so far as to insist that he could uncap *one-third faster* than with any other knife, and when uncapping piece boxes, he *demonstrated* it. You may send me one half dozen of them. J. E. HETHERINGTON.

Bee-Keepers' Supplies!

I shall continue to sell, at reasonable rates, a large variety of Bee-Keepers' Supplies, such as

MUTH'S ALL-METAL HONEY EXTRACTOR,

UNCAPPING KNIVES,

WAX EXTRACTORS,

LANGSTROTH BEE HIVES,

SECTIONAL BOXES,

SQUARE GLASS HONEY JARS,

to hold one and two pounds each, with Corks, Tinfoil, Caps and Labels, ½ lb. Tumblers, Glass Fruit Jars, &c.

COMB FOUNDATION,

BEESWAX, GLOVES, VEILS, STRAW MATS, ALSIKE CLOVER SEED,

as well as a great assortment of Garden and Field Seeds, &c. For further particulars address,

CHAS. F. MUTH,

2-tf 976 and 978 Central Ave., Cincinnati, Ohio.

L'APICULTEUR, is the title of the French Monthly Journal devoted to bee-culture, edited and published by Mons. H. Hamet, Rue Monge 59, Paris. Price 7 francs.

1879.

1879.

REV. A. SALISBURY & HAYES,

CAMARGO, ILL.,

Breeders of Pure Italian Bees and Queens, from Imported and Home-Bred Mothers, and Manufacturers of Hives, Prize Boxes, Comb Foundation, and all general Apiarian Supplies.

BEES.

Reserved and Early Tested Queens	$3 00
Queens, July to September	2 50
Colonies of 10 frames	9 00
" 12 "	10 00
Nucleus, 1 frame	4 00
Comb Foundation, 10 lbs. or over, per lb	50

Wax cleaned and worked for 25c. per lb., or on one-half shares.

☞ Send for Circular. 2-7

VICK'S FLORAL GUIDE

A beautiful work of 100 Pages, One Colored Flower Plate, and 300 Illustrations, with Descriptions of the best Flowers and Vegetables, and how to grow them. All for a FIVE CENT STAMP. In English or German.

The Flower and Vegetable Garden, 175 pages, Six Colored Plates and many hundred Engravings. For 50 cents in paper covers; $1.00 in elegant cloth. In German of English.

Vick's Illustrated Monthly Magazine—32 Pages, a Colored Plate in every number, and many fine Engravings. Price $1.25 a year; Five copies for $5.00. Specimen numbers sent for 10 cents.

Vick's Seeds are the best in the world. Send FIVE CENT STAMP for a Floral Guide, containing List and Prices, and plenty of information. Address,
2-3 JAMES VICK, Rochester, N. Y.

ITALIAN NUCLEI.

Strong 4 frame Nucleus, in new hives, all complete, for	$5 00
Two frame nucleus	2 50

All Queens reared in full colonies, from a choice Imported Mother. HIRAM ROOP,
2-tf Carson City, Montcalm Co., Mich.

Hives and Section Boxes.

Material for Langstroth Hives, with 9 Frames and 6 Cases for sections, in the flat	$1 00
Sample Hive, in the flat	1 25
Dovetail Section Boxes, any size under 6x6 in., in lots of 500	3 50
" " 1,000	6 50

Prize Boxes ready to nail at same prices. Send for Circular and Price-List. W. D. PARKER, Manufacturer, Defiance, Ohio. 2-5

2,000,999 Strawberry, Raspberry, Blackberry, Currant, Grape Vines, Asparagus Roots, Peach Trees.

100 SELECTED VARIETIES.

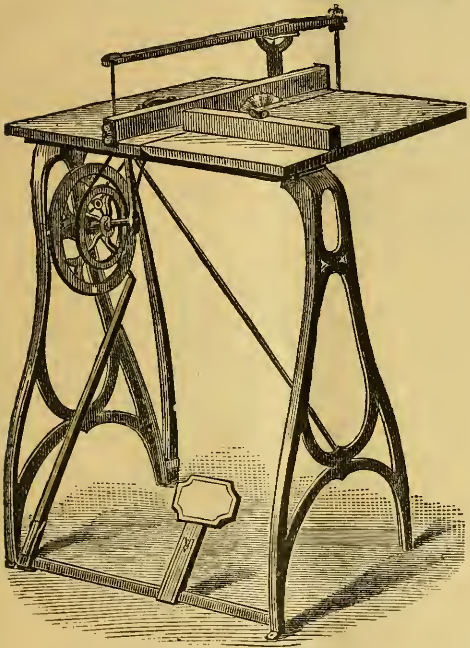
Genuine Stock. Quality best. Prices lowest. Send for free Catalogue to JONH S. COLLINS, Moorestown, N.J.

J. S. Woodburn, Newville, Pa., after two years' use, says:

"I find myself quite equal to cutting out from 12 to 15 hives per day. Am now engaged on a job of 100 hives, 1,000 frames, 5,000 sections and 500 broad frames, and expect to accomplish it all on the Combined Circular and Scroll Saw."

Address, **W. F. & JNO. BARNES, Rockford, Ill.**

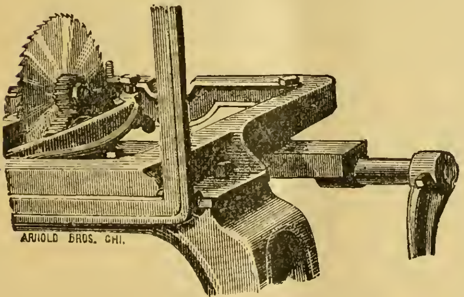
Combined Circular and Scroll Saw for Hive, Box and Frame making.



This cut shows the Combined Circular and Scroll Saw. The section views show the table arranged for box and frame work, and the crank attachment.

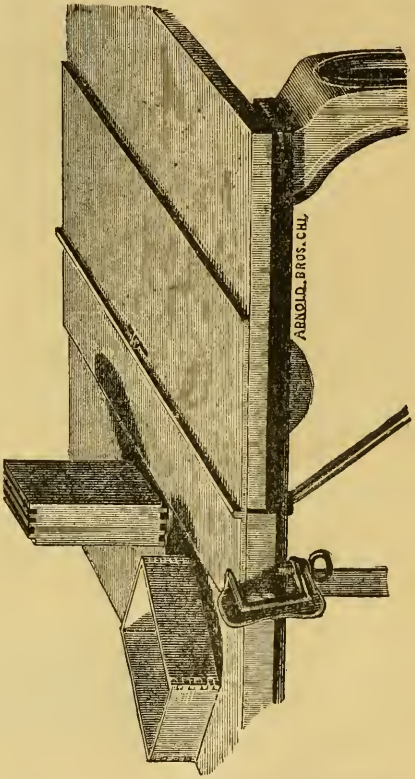
Price of the circular and scroll saws combined.	$40 00
" crank attachment	5 00
" boards with gauges for frame and box work	75
" cutter heads, each	1 50
" circular saw without scroll saw attachm't.	35 00

Crank Attachment for the Combined Machine.


ARNOLD BROS. CHI.

The cut shows the manner of attachment. This gives a slow but powerful motion to the saw, and soft wood two inches thick can be ripped quite easily. This attachment is desirable to those making bee hives, frames, section boxes, etc.

Showing the Combined Machine, Arranged for making Tongue and Groove Joints for Boxes, Drawers, Frames, etc.


ARNOLD BROS. CHI.

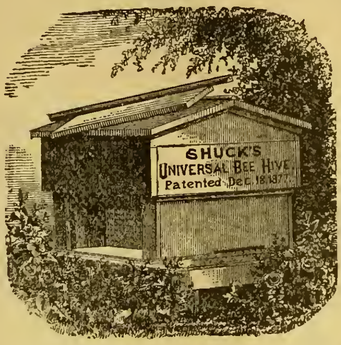
This cut shows the table of the Combined Machine arranged with a cutter-head to tongue and groove blocks or bundles of thin stuff for frames and boxes. If the stuff is in blocks the crank attachment serves an effective purpose in ripping them, each four pieces making a frame.

The above cut shows a thin board ¼ inch thick, placed on the table with a rib fastened to it with brads. This rib is of the same width as the cutter and is placed from the cutter the width of the cutter. This rib and board are so easily made that we do not furnish them unless especially ordered. The price of them is 75 cents. If different width cutters are used, a board with a corresponding rib can be made for each cutter. This way of making the joints for boxes is largely used by Bee men, Fruit men, and many articles of manufacture in different lines of trade.

This way of cutting the tongue and groove joints for box and frame work is cheap, effective and rapid. Different width cutters can be used, varying the widths of the tongues and grooves as desired. While cutters can be ganged together with washers between them, the expense is about equal to our complete machine, simply for the shaft and cutters, and then no change can be made in the width of tongue and grooves to correspond with the different kinds of material, and boxes to be made. When ordering cutters for this box-work, please mention for what use they are wanted, besides giving width, and we will send those that are most suitable.

Address, **W. F. & JOHN BARNES,**
Rockford, Winnebago Co., Ill.

SHUCK'S UNIVERSAL BEE HIVE!



Claims the Attention of every one engaged or interested in Bees.

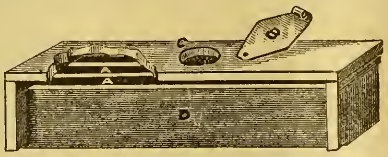
THE HIVE

Is devised by a practical bee-keeper for PROFITABLE use ; double walls, with either dead air space or chaff packing ; inside walls are porous, allowing all moisture to escape from the brood chamber, keeping it perfectly dry, sweet and wholesome, even with unsealed stores ; both sides are removable ; frames hung upon metal supports on the top of the end walls (not in rabbets) and are easily handled ; brood chamber large or small, as desired, and may be as complete with one frame as with a dozen ; space for 96 pounds surplus honey within six inches of the brood nest. No colony need be lost during the winter months in this hive. No melting combs in this hive during the hot weather. Positively

THE BEST HIVE BEFORE THE PUBLIC.

APIARY RIGHTS, $5.00. TERRITORIAL RIGHTS FOR SALE ON EASY TERMS.

SHUCK'S BOSS BEE FEEDER,



Patented June 11, 1878,

Removes all the obstacles in the way of feeding, by its simplicity, cheapness, and its adaptability to the purposes required. It is to be placed at the entrance outside the hive, and supplied with sugar syrup, or syrup and flour any time in the day, without annoyance from bees, either to the bee-keeper or the colony being fed ; no bees can reach the food except from the inside of the hive. Every bee-keeper appreciates the advantage of feeding to supply short stores for the colony, or to stimulate and encourage breeding, previous to an expected flow of honey.

Prof. A. J. Cook says : "I think very highly of your feeder, and only find fault with the price."

G. M. Doolittle says : "You are just a shouting when you say, 'I trust my Boss Bee Feeder will please you.' It is the best bee-feeder I ever saw, in ease of feeding, simplicity and for general use. When I see a good thing I like to say so. It is worth no less because it is patented."

D. D. Palmer says : "I received your Boss Bee Feeder and would say of it, that I like it better than any I ever saw ; in fact, it seems to be all that could be desired. It is all you claim for it, being so convenient to get at, and being so readily filled without disturbing the bees or being to the trouble of taking off the cover."

SAMPLE, BY MAIL, 30 CENTS.

Address, J. M. SHUCK,
DES MOINES, IOWA.

THE AMERICAN BEE JOURNAL

Devoted Exclusively to Bee Culture.

VOL. XV. CHICAGO, ILLINOIS, APRIL, 1879. No. 4.

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Editor's Table.

☞ Through the courtesy of the Rev. R. H. Peel, Secretary of the "British Bee-Keepers' Association," we have received the Premium List of "The Royal Agricultural Society of England." The London Exhibition will be held from Monday, June 30, to July 7. This is one of the principal Agricultural Fairs of England, H. R. H., the Prince of Wales, being President of the Society. Prizes of £25 sterling are offered for bees, hives and honey. These prizes will no doubt result in a good display.

◆

☞ Mr. Fred Huntley, of Webster City, Iowa, has sent us a bee-feeder, which he has made in the shape of a shallow frame, 1½ inches wide, 2½ inches deep, and as long as the hive requires, to hang like an ordinary frame in the hive. It is hollow, and has thick factory-cloth fastened over the bottom, through which the feed is drawn down by the bees. It is practically the same as the Dunham feeder, but is made of wood instead of tin. It has a cork-hole in the top for pouring in the feed.

◆

☞ Mr. E. H. Wynkoop, Catskill, N. Y., has sent us a section for surplus which he calls the Gilbert Section. He says it is patented by a Mr. Gilbert of that town. It is similar to the one made by Lewis & Parks, though not nearly as nicely made, and is but a trifle thicker than the ordinary berry-box material. The corners are gouged out and then it is bent to place. Dr. Southard, of Kalamazoo, Mich., has used such for sections for years. Mr. Wynkoop has made arrangements to make and sell these sections. They can be produced cheaply, but we prefer something having a little more strength for comb honey.

☞ Separators must be used large enough to come within one-half inch from the top and bottom of the sections used, or they fail to accomplish the object for which they are used, viz: to get the combs built so straight that they will not interfere with one another when the sections are placed in crates. Many mistakes were made last year, in this particular; some placing them clear to the top, and others down to the bottom, and the combs were extended by the bees beyond the separators, making bad work for packing in crates. The result was leaky packages, a disgusting state of things for the retailer, and a loss to the producer. It will *pay* to be careful in producing, so that none of these things may happen to disgust those who handle honey.

☞ A correspondent inquires if we advise the use of the new flat-bottomed and very thin foundation in surplus boxes. We have received samples of it that are *thin* enough for any thing, and more *beautiful* to the eye, even, than it is thin; but before we advise its use in surplus boxes we shall await full experiments which we shall make this season, as well as those which will be made by many apiarists all over the country. If it is a success, the BEE JOURNAL will with pleasure endorse it; but we cannot afford to tamper, even in the slightest degree, with such an important thing as the demand for, and consumption of, honey in the comb. For the present the BEE JOURNAL advises caution and experiments only.

☞ "*The Bee-keepers' Exchange*," for January has put in an appearance. It is published at Canajoharie, N. Y., by Mr. J. H. Nellis. It contains many interesting articles, and comprises 24 pages. The printing is fairly done, and though *late* in making its appearance, it is intended to catch up, as rapidly as circumstances will allow.

☞ "Shall we use the sections that are nailed or those dovetailed?" is a question propounded to THE BEE JOURNAL. We much prefer those nailed; the nails add to the strength for shipping, while the dovetailing is a point of weakness, instead of strength. The comb being the only thing to hold the latter in shape, the sections cannot be as strong as those nailed.

☞ There are no changes in the Honey Markets—prices are low, and prospects are for a continuance.

MAINE.—Prof. C. H. Fernald was appointed Vice President for the State of Maine, at the late National Convention. He was in Europe at that time, and now informs us that he will not be able to attend to the duties, as will be seen by the following letter:

Maine State College, Orono, Mar. 18, 1879.

THOMAS G. NEWMAN, ESQ., Dear Sir:—Your card has been received. It will be quite impossible for me to attend to the interests of the *Bee-ists* of Maine in the capacity mentioned, but if there should be an association formed and a show of honey exhibited, possibly I could give an address, if desired by our people.

I am, very truly yours,
C. H. FERNALD.

I regret that Prof. Fernald will be unable to attend to the duties devolving on the Vice President for Maine. As it is time for something to be done in getting the preliminary arrangements made for a Honey Show. I have appointed Mr. W. H. Green, of Parkman, Maine, to fill the vacancy, and hope he will succeed in making the necessary arrangements for a creditable Honey Show during the coming season.

THOMAS G. NEWMAN, *Pres.*

☞ The "*Western Honey Bee*" is the name of a new periodical issued at Lebanon, Mo., containing 10 pages of reading matter. The articles are somewhat stale, but uncredited; this is probably an oversight which will be remedied in future numbers. It is published at the *Leader* office, but the printing is by no means a credit to the art. It is edited by Mr. E. M. Harrison.

STRANGE.—Did any one ever hear of glass being decomposed by containing honey? We confess it seems rather a strange thought. Is there not some mistake about it? Here is what Mr. Edwards of Skaneateles, N. Y., says about it:

> One of my customers for extracted honey told me this week that the fruit can that she put her honey into, was entirely spoiled by the honey decomposing the glass, so much so, that she could put a knife through the glass. The appearance of the glass was not changed. Another of my customers has been trouble in the same way. The honey was *pure*. We have not noticed any thing out of the way with the cans containing our own honey. Can you tell what the matter was, and what consumers can place honey in to keep? Out of 36 colonies placed on winter stands (out doors) I have lost none yet, although some are weak.
>
> WM. R. EDWARDS.

Permanent International Exhibition.

The following letter concerning exhibition facilities will explain itself. Those who wish to take advantage of its free space, should communicate with Mr. H. J. Smith :

PHILADELPHIA, Pa., Feb. 26, 1879.

EDITOR AMERICAN BEE JOURNAL:—With the purpose of practically illustrating the methods of bee-keeping and the preparation, &c., of honey, as well as the various hives and mechanical appliances in use in this industry, we offer space and facilities, without charge, to parties desiring to present their inventions to the public, in this, the old Main Building of the Centennial.

Besides presenting peculiar attractions as a bazaar for the exposition and sale of goods, amusements and entertainments, and fete days bring a large attendance here (297,000 last year), while the educational features of the display, constitute it a most important adjunct of our schools.

In a letter received from one of the U. S. Centennial Commissioners this month, he says : "While the number of exhibits is not so great as that which were gathered in 1876, yet the concentration of the most characteristic objects of the World's Fair into your one 20 acre building really affords equal delight with greater facility of examination. So complete is the collection you now have there, that it is a question whether the Permanent Exhibition is not more desirable as a school of objects than the vaster collection of three years ago ; while it constitutes for the new generation, already come upon the stage, an inexhaustible storehouse of instruction and pleasure." Another Commissioner writes : "My grandson shall be sent to Philadelphia to be educated, solely that he may have the advantages of such a practical course of education as this exhibition and this alone affords."

The increasing attractiveness of this exhibition is illustrated by recent applications for space, of which I will only mention two that were made to-day. Space and power asked for, to introduce 200 Wheeler & Wilson sewing machines, to be put to work on fine shirtings, coarse woolens, saddlery and shoes. Three thousand square feet were also asked for to establish permanently the culture of silk worms and to teach the manipulation of the cocoons in obtaining the raw silk.

Yours respectfully,
H. J. SMITH, *Assistant to the Pres't.*

☞ Mr. Paul L. Viallon, Bayou Goula, La., has bought the apiary of Mr. Wm. H. Ware, consisting of 275 colonies of Italian bees. He now has over 450 colonies.

☞ The Convention of the North-eastern Bee-keepers' Association was held at Syracuse, during the past month. It was quite an interesting meeting. The minutes were received too late for this issue. They will appear in full in the next JOURNAL.

RAG-BURNING TUBE FOR SMOKERS.—Mr. Bingham has made another improvement for smokers, where rags are used. It consists of a tin tube with two bent sides into which rags are placed. This tube of rags is to be lighted at the bottom and inserted in the fire tube of a smoker, and after the fire is burning well, the smoker may be laid down and the fire will keep several hours. We have tried it, and find that it works well.

AGENTS.—We learn that a traveling agent has been receiving subscriptions for the BEE JOURNAL and signing our names to receipts given for such money. This is a fraud. We have no travelling agents, and none are *authorized* by us to take subscriptions and sign our name. It is simply a forgery. We cannot too strongly enforce this caution—Never pay money to unknown or irresponsible persons.

☞ A beginner inquires about the Poggenpohl hive, and whether, it will do what is claimed for it. It is stated that each colony in the hive will give 1500 lbs. of honey and throw off swarms of from 100,000 to 200,000 bees. The hive is 5 stories high and each story contains about as much room as a two-story Langstroth hive. So the whole hive is a house of about the capacity of 10 ordinary one-story Langstroth hives. But no one need be deceived by preposterous stories told by the agents of such a hive. It only requires a moment's thought and reason to get at the true state of affairs.

SMOKER No. 4.—Mr. H. Scovell has produced smoker number 4, and sent it to our Museum. In it, he has placed the joint on the top instead of at the end of the bellows. This makes the upper part of the bellows work, instead of the lower, and therefore the tube containing the fire and smoke is all the time "on the move" instead of being steady, like the Quinby and Bingham smokers. We fear that the valve at the base of the small tube will clog up, after some use. At all events, Mr. S. should have credit for persistence. This is his fourth trial, and with the exception of the first one it is the best—the others being of no use whatever.

☞ Where bank bills are not at hand to send to this office—send Postage Stamps, either of *one*, *two* or *three* cent denomination.

Thou Shalt not Adulterate.

So general, so persistent and so demoralizing have adulterations become, that a stringent law against all such is demanded alike in the interests of common humanity, common honesty and common healthfulness.

The Chicago *Tribune* of Feb. 23, contains an article calling upon the Mayor and City Council to "appoint competent and honest persons to act as detectives of the adulterated groceries and provisions, sold now by almost all the retail grocers. The poorer class of citizens are being actually poisoned,—slowly but certainly,—the flour, the sugar, the coffee, the tea, the milk, the butter—almost everything sold to them in the shape of an edible—is adulterated by poisonous or injurious substances." * * * "Honest and faithful as well as competent men should be immediately appointed as detectives, and sellers of adulterated food should be punished by fine and imprisonment, their licenses revoked, and poisoned goods destroyed."

It cannot be denied that these are facts which demand the attention of every citizen.

In answer to our demand for honest production of honey and a law against the adulteration of it—an Eastern writer on what he is pleased to call "the coming war," makes fun of the idea, and cites the oleomargarine butter-fraud as a sample of the *good* done by *fraudulent imitations*. He says that he has a friend who is making twenty tons of this vile trash (imitation butter) per day, and that he could sell 40 tons per day if he could only manufacture that much. This writer then endorses a prediction concerning its "future," viz: "that within a year every commission house in New York will open their doors to receive it, place it by the side of the pure article, and advocate its sale, *because*, forsooth, they can make a better profit on its sale!"

He then defiantly alludes to glucosed honey, and says that we may substitute the words glucosed honey in the place of oleomargarine and the results will be similar! ! Any one should *blush* to make such an allusion, much more to be so base as to *predict* such a result.

He then defiantly enquires: "What are you going to do about it?"—adding, with a sneer at the action of the National Convention against adulteration, "glucosed honey will be cheap and in great demand," though "made by the sinners in the wilderness"—"outside of the National Convention!"

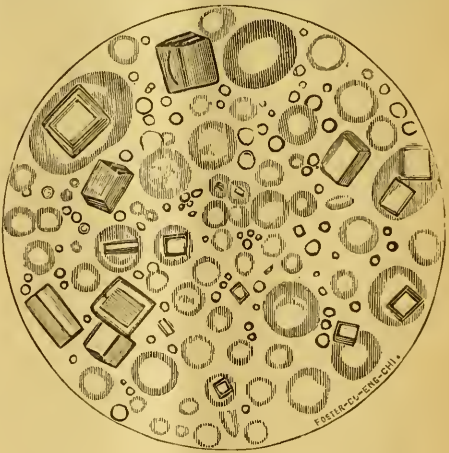
Well does he know, however, that if the counterfeit stuff were labeled "Glucose," instead of "Honey," that it would find no sale, for that representation alone finds it a market!

Oleomargarine, too, would find no buyers were it not for the fact that in *appearance* and *taste*, it resembles the genuine butter. "The better the counterfeit the more dangerous the fraud!"

Were there a law compelling the manufacturers of counterfeit butter to stamp it "Oleomargarine," and the fraudulent-honey men to label their product "Glucose"—how long would it be before "the sinners in the wilderness" would be obliged to adopt some *new* fraud or—if it be possible—to become *honest* men!

Dr. R. U. Piper, a noted analytical chemist of this city, has prepared an illustrated article descriptive of the butter fraud, from which we select the following, by permission of the author:

To sum up the whole matter, spores or eggs of living organisms, and sometimes these organisms themselves, some of them known to be inimical to the human system, may be introduced into it through oleomargarine, as we find this substance contains in all cases fragments of animal tissue; that moreover that if this tissue is perfectly healthy in the first instance and does not contain these spores or organisms, it is like all other animal flesh when dead—sure, sooner or later, to pass into the putrifactive process when exposed to the ordinary conditions of moisture and warmth; and we have already seen how dangerous such putrifying meat may become to the human economy.

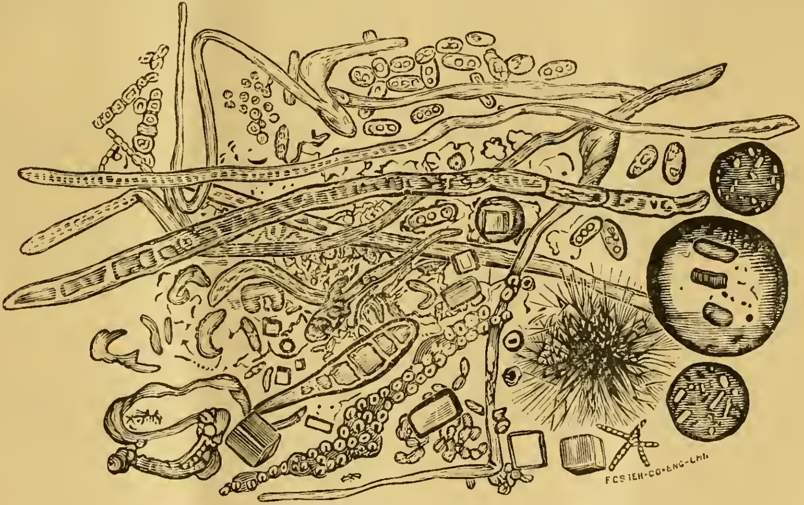


Pure Butter, magnified 564 diameters, 318,096 times.

That good butter has none of these organisms nor indeed can the very worst article of the kind carry in it the eggs of the tape worm or trachinæ, which oleomargarine is very liable to do in the fragments of animal tissue constantly being found in it.

Mr. Mitchaels tells us that "there can be no doubt that fats and grease of every description are used to make oleomargarine, because all the caul fat of oxen brought to New York city in a week would not be sufficient for one manufactory for four days, and there are seven olemargarine manufactories in the city." Thus it will be seen that every variety of vile grease is used in this compound. A recent foreign scientific authority says that such grease used in soap is often found to be dangerous. Is it safe then to take such substances into the human stomach?

As it regards the effect this manufacture may have on the farmers, the producers of the legitimate article, it is hardly necessary for me to speak. If, as is stated, a single manufactory in New York is producing 100,000 pounds a day of the unwholesome compound, and there are seven of these concerns in that city, to say nothing of others in different localities, how long will it take to drive geniune butter out of the market, especially if as is claimed, the bogus stuff can be so scented and flavored as to prevent its being distinguished by the taste or by other means than a scientific examinations?



Oleomargarine, magnified 564 *diameters*, 318,096 *areas or times.*

The following are explanations of the illustrations which are herewith published:

Illustration 1.—Geniune clean butter as seen under the microscope. The circular globules are composed of butter fats. The prismatic and cubical forms represent salt crystals. Sometimes the butter fats present irregular or oval outlines.

Illustration 2.—This drawing was made from a specimen sent me for examination by the keeper of a respectable eating house in this city. I have made a number of like examinations for this gentleman, who has shown himself specially anxious to furnish his customers with a good and pure article of butter. This illustration is made up of drawings from several examinations of the specimen mentioned. When placed on the slide in the first place the shreds of animal tissue, salt and fat crystals and spores were seen, and also a peculiar form which I have frequently met with in foul water. The other objects, many of which were active living forms, together with the fungi, were found after the material had been boiled in water as before described, and also after it had been dissolved in sulphuric ether. As I have said in another place, many of these forms are such as are present in all putrifying animal matter, while others are perhaps the bacteria of special diseases, or the strange silent workers whose office it may perchance be to prepare the system for the accession of such cruel maladies, for illustration, as we are told by the authorities resulted in England from eating the flesh of animals afflicted with the "cattle disease."

The drawings are all made with the utmost care under the camera lucida, and are faithful transcripts of the objects represented.

R. U. PIPER.

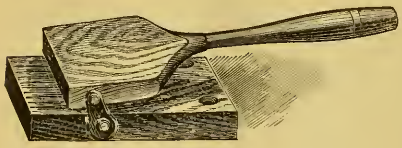
The foregoing shows how "the sinners in the wilderness" have been sacrificing the health and happiness of men, women and children—simply for the ill-gotten gain derived from the sale of a fraudulent article which scatters disease broadcast! Such mercenary "sinners" richly deserve that execration which all honest men will bestow upon them, as well as do their "companions in iniquity," who, "for filthy lucre's sake," will adulterate honey with glucose or tempt their bees to practice a like fraud by feeding them upon that vile trash, allowing them to store the stuff in their surplus receptacles! A stringent law to protect the honest as well as to punish the dishonest is a public necessity. If the present Congress should fail in their duty, by neglecting to provide such a statute, then let every honest voter exact a pledge of candidates to favor such a measure, before giving them their votes at the coming election.

Public Honesty needs it!
Public Morals require it!
Public Health demands it.

And of necessity such a law ought to be enacted and strictly enforced!

Machine for fastening Starters.

We have received from Mr. W. D. Parker his machine for fastening foundation starters in sections. It is a neat and handy device and will work nicely. The machine may be well understood by the accompanying illustration. The machine is fastened to a table by two screws, and after sliding the top bar of a box or section under the lever, against the stop, placing the starter ⅛ inch in under the lever, raise the lever and at the same time turn the piece of foundation up against the end of the lever, taking it out with a sliding motion and the starter is firmly fastened to the box.



☞ Edward D. Rigby, of Peshtigo, Wis., wishes to work in an apiary for a season, for experience. He is handy with tools, and would make himself generally useful. Any one desiring such help should address him at once.

☞ The mortality among bees has been extensive; in many cases amounting to from 50 to 75 per cent. Dysentery is the main cause.

The Albany Co., N. Y., Bee-keepers' Convention, will be held at Houck's Hall, Clarksville, May 6th, 1879, commencing at 10 a.m. A full attendance is desired.

H. W. GARRETT, *Pres.*
T. F. C. VAN ALLEN, *Sec.*

☞ Mr. D. S. Given, of Hoopeston, Ill., has sent us a sample of the foundation made on his plates, with wires. The wires are pressed into the wax sheet by the action of the plates, after being fastened to the frames. So far as the sample sent us is concerned, the plan is not a success—the wire having cut the wax sheet through. This may have resulted in some measure from the rough handling of the post office employes. He says:

> My plan is to make the foundation right in the frames. I first sew the wire through the frames; the wax sheet is then placed on the wire and all is put into the machine. The wire is then bedded, fastened in the frames, and the foundation is made all at one snap. Of course, I can make foundation as well without frames or wire. The machine works splendidly. A boy 10 years old can run it. The plates are made of the size of the frames, from antimony and lead, made very thin and then bedded on felt. These are fastened on two boards, hinged like a book and are then pressed.

☞ Should any forget our address when on a visit to Chicago, they can easily procure it by consulting the City Directory to be found in almost every hotel and store.

☞ A club for the BEE JOURNAL may be sent all to one post office or to as many post offices as there are names in the club.

Honey Markets.

CHICAGO.

HONEY.—White clover, put up in single-comb boxes, in slow demand. Prices paid for such, 10@12c. When more than 1 comb in a box, 9@10c. Dark, in the comb, slow sale at 8@10c. Extracted Honey, white, 7@8c.; dark, 6@7c.

BEESWAX.—Prime choice yellow, 23@25c; darker grades, 16@18c,

NEW YORK.

QUOTATIONS.—Best fancy white comb honey, 12@15c; extracted, new, 7@8c; buckwheat comb honey, 10@12c; beeswax, prime, 25c.

H. K. & F. B. THURBER & CO.

CINCINNATI.

COMB HONEY—In small boxes, 10@12c. Extracted, 1 ℔. jars, in shipping order, per doz., $2.50; per gross, $28.00. 2 ℔. jars, per doz,, $4.50; per gross, $50.00.

C. F. MUTH.

CALIFORNIA.

Quotations for comb honey are: White, 9@11c.; dark to medium, 7@8c.; extracted, 4@6c.
STEARNS & SMITH, 423 Front St., San Francisco, Cal.

☞ Samples of the "Metalic Foil Comb Foundation," will be sent on receipt of a three cent postage stamp. All foundation will be guaranteed against sagging in every particular. Mr. A. F. Moon, to whom sheets have been sent writes: "The bees have built up and filled with brood the frames introduced," and adds, "You can rest assured the thing is a success." JNO. Y. DETWILER & CO., 25 Summet-st., Toledo, O.

Foreign Notes.

For the American Bee Journal.

Bee-Keepers' Register Book.

J. S. WOOD,
Vice-President of Danish Bee Association.

Mr. Thomas G. Newman—*Dear Sir:* I have thought many times that a bee-beepers' register book would be very welcome to many apiarists. I enclose a scheme of what manner I have thought would be useful. I do not mean to apply it to very large apiaries like those you have in America; but for parties who have from 1 to 30 colonies, who wish to make notes of any special colony, I think such would be valuable, for example, as accompaniments to the slates you advertise. They could be printed or lithographed, and in paper binding of say 12, to any higher number of sheets or pages in each book. I think they would be very useful if delivered at a reasonable price. You will at once see the meaning of the register on looking at the sketch sent.

Nyborg, Fyen, Denmark, Feb. 6, 1879.

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In Denmark, where bee-culture was for a long time greatly neglected, there are now over 100,000 colonies of bees. The annual product is estimated at 200,000 lbs. of wax, 2,000,000 lbs. of honey, and 50,000 gallons of mead.

The bees introduced into Australia have multiplied rapidly and largely. They labor there almost the year round. The honey produced in the spring remains liquid; the winter honey is thick and of a doughy consistence at first, but speedily crystallizes. The quality of the honey is excellent, though differing according to the location of the apiary and the kind of pasturage. That gathered in the southern districts of the country is extolled as the best.—*Exch.*

Translated from *L'Apiculteur Alsacien-Lorrain*, by Frank Benton.

Feeding Bees for Profit.

CH. ZWILLING.

Most novices in apiculture are impelled by a desire to increase the number of their colonies as rapidly as possible. To attain this result some have recourse to artificial swarming; they divide twice and even three times, colonies which often are already very weak in bees, but instead of advancing, they go backward. Others resort to speculative feeding to stimulate the queen in her laying and to bring about the development of brood in order to obtain a large number of natural swarms. This latter method will produce the desired result if it is applied with a proper understanding of the subject; and above all, if it is employed at the proper time. Let us examine, then, for the benefit of our new disciples, at what times of the year and in what manner feeding our bees for profit should be practiced.

With us, in Alsace and Lorraine, swarms usually issue from the end of April up to the 10th of June. The young bees composing a swarm are from ten days to a month old; let us add to this the twenty-one days necessary for the hatching of the bees from the laying of the egg to complete development, and we will find that stimulative feeding should commence about the 15th of March, if it is to exercise any influence in bringing about early swarming—the only kind of swarming profitable with us.

What takes place within the hive when bees are fed, for the purpose of stimulation, every two or three days? They regard as the product of nature what the hand of man spreads before them; they hasten to leave their habitations and go outside in search of the sweet nectar. All goes well if vernal sunshine and gentle zephyrs favor these field excursions; but if, unfortunately, the weather is bad, if rigorous winds follow closely this seductive sunshine and overtake the rovers in the open field, when this happens, the poor workers are chilled, the weak colonies rapidly depopulated, and the brood perishes for the lack of care, and finally the colonies succumb. Here stimulative feeding has completely failed, and the novice in bee-culture might well exclaim with the milk-maid of the fable: "*Adieu ecus, essaims, miel et ruchees!*"

All goes well, we have said, if the weather is propitious. But in this case it is Dame Nature who, with us, takes charge of the stimulative feeding. See how the cornel-tree, the violets, the hazel-bushes, the apricots, and all our fruit trees spread their blossoms one after another offering a profusion of nectar and pollen for our industrious workers.

However, we do not mean to say that during the spring yield brought about by pleasant weather, the addition of a few cups of sugar-syrup or of honey diluted with water, and given at intervals of eight to fifteen days, would not hasten the prosperity of the hive. But with us the *best* method of feeding for profit consists in *provisioning sufficiently our hives in early autumn*, in giving afterwards in the spring to each a comb of sealed honey, and in disturbing the bees as little as possible.

The only speculative feeding that M. Bastian, our great master in apiculture, recommends for Alsace and Lorraine, is the method employed in the case of swarms. Indeed give 5 to 10 lbs. of sugar dissolved in water, to a new swarm and you will ascertain with what rapidity they will construct splendid combs to be filled later, if the season permits it, with a fine store of honey.

We urge our young pupils in apiculture not to fall into an error, by reading in the journals that one Hilbert, an eminent apiarist in the North, obtains surprising results through feeding his bees with sweetened milk or with a paste composed of eggs and honey; that one Weygandt, of Tannees, has quite as good success as his brother beekeeper, by feeding his bees with a pap made of flour and honey; that in Luneburg apiaries of 60 colonies, stimulated by feeding, easily reach the number of 300 at the swarming season—June and July. Do not forget that these apiarists are brought up to the business, that they know how to prepare and use properly artificial food, and that their bees are not able to revel, like ours, in fields of colza and among the blossoms of fruit trees.

However, should any wish to try feeding for profit, they may be advised to do it during favorable and unchanging weather, and to select for this purpose only populous and well-provisioned colonies.

☞ The Paris Exposition awarded a Medal to the Bohemian bee periodical "*Der Bienenvater.*" This Medal was claimed by the Editor, and also by the President of the Society that publishes that paper. In consequence of this dispute, the editor, Mr. Mayerhœffer, withdrew, and has founded another paper and association.

☞ M. Hamet, editor of *L'Apiculteur* has been appointed professor of apiculture by the French government and delivers two free lectures in the Luxembourg every week—on Tuesdays and Saturdays.

☞ A new Swiss bee paper has made its appearance. It is called "*Bulletin D'Apiculture pour la suisse Romande.*" It is edited by M. Ed. Bertrand, and published at Nyon, Vaud, Switzerland. It is well edited and nicely printed. Success to it.

☞ A new bee paper, bearing on its first page the name "*Oesterreichische Bienen-Zeitung,*" and a quotation from Von Berlepsch as well as one from Quinby, comes from Prague, Bohemia. Its founder is Rudolph Mayerhœffer whose name is favorably known in this country. His motto: Forward with united energy ("*Vorwaerts mit vereinten Kraeften!*") is a good one, as are also the first numbers of his journal. We wish the undertaking success.

Our Letter Box.

Rows, O., March 14, 1879.

Last fall I had 41 colonies of bees in good condition; now I have 28; the 13 died with plenty of honey in their hives. The hives were well protected with straw on the summer stands. The frames were covered with cloth, paper and cut straw. Something less than one-fourth of the bees in box hives, unprotected on their summer stands, have died in this section; but nearly one-half of those in frame hives, protected and unprotected, are dead. Why this difference? The frame hives mostly used here are like mine, the old American, 11x14 in. frame. There were no bees wintered in cellars near this place. If this winter proves cellar wintering desirable, many of your readers will want to know how to make, arrange and manage a cellar. C. C. FUNK.

[An apiarist of large experience reports that he has tried all ways of preparing for winter—and that there was no difference in results—all suffered by the dysentery alike. Others report the cellar exceedingly disastrous; others, again, like Mr. Funk, report the greatest loss for those packed in chaff. As yet there are no means of determining as to which manner of preparing for winter is best. Before time to prepare for the next season, we will give directions about preparing a cellar.—ED.]

Rockwood, Mich., March 5, 1879.

Sulphur water will not hurt bees. I think it is better than soft water for them. I have tried it by putting rain water in troughs in the bee yard. They would go to the sulphur spring instead. They are on the sulphur trough by hundreds all day long. LEVI N. MILLER.

March 10, 1879.

I have 63 colonies of bees in my cellar, in splendid condition. They are mostly in the North Star hive. I have used this hive for three years and believe it to be just as good for the bees as any hive, and easier to handle than any hive I ever used. My plan to stop robbing when they are robbing hard is to take a leaky vessel and put it on the hive, filled with cold water, letting it drop on a board 6 inches in front of the entrance. The board the water drops on should slant toward the entrance. O. W. PARKER.

Hamilton, Ont., March 4, 1879.

Bees in this section are about on the average. Some parties are losing heavily while others are doing well. There seems to be a disease such as I see mentioned in the BEE JOURNAL, that many have died of, while others have died for the want of ventilation. I see Mr. Walton's bee house described in the JOURNAL. In my mind it is the Eureka sought for by bee-keepers. It is the most complete labor-saving invention I ever saw. J. A. WATERHOUSE.

Smith's Grove, Ky., March 2, 1879.

QUEEN TO BE GIVEN AWAY.—I will give a tested Italian Queen to any member of the Southern Kentucky Convention who will get up the largest club of subscribers for THE AMERICAN BEE JOURNAL, by the first of May. The Queen I will bring to the Convention, and it will then and there be awarded. Let all try to do the best they can to get the Queen. N. P. ALLEN.

[☞For the second largest club we will give a copy of Cook's Manual, bound in cloth. For the third, the same bound in paper. For the fourth largest, we will give a copy of our pamphlet on "Bee Culture." We expect to be present, and hope to meet a large number of the Kentucky bee-keepers. —ED.]

Dubuque, Iowa, March 13, 1879.

The February number of the AMERICAN BEE JOURNAL, page 55, statistical table, gives me, comb honey, 4000 lbs. It is a typographical error; it should read 1000 lbs. Please correct. GEORGE W. HORNER.

Brandywine Summit, Pa., Mar. 11, 1879.

Bees in this locality have wintered extra well. I wintered out of doors, with but little loss. My brother and I will have about 600 colonies of bees in operation this spring. We are going to locate about 12 miles apart with about 300 colonies to each apiary. Care should be taken in spring feeding not to excite them before the weather gets warm or they will fly out and decrease instead of increase. I prefer feeding on the hives and only such days that bees can fly. If fed outside the bees may venture out when they cannot get back. Care should be taken not to boil syrup in copper or brass kettles; I once ruined some fine colonies by doing so. I opened some hives to-day, and find they have from 4 to 5 combs with brood 2 to 6 inches square, in the center. I do not believe in wintering in cellar or winter house here. The thermometer has not been below zero more than 4 or 5° this winter at any time, and we have had about 5 days of such weather. J. T. WILLIAMSON.

Winterset, Iowa, March 10, 1879.

On page 130, I wrote that some colonies had dysentery or cholera bad. Your printers read the last two words foul brood. That is something I know nothing about except what I have seen in the papers. On page 81, I wrote the word *secretion;* this you printed "section." I will give a hint now on feeding bees. Some recommend feeding flour with bran on straw to keep bees from clogging up or smothering themselves. Many of the small particles carried in with the flour are thrown away, and may be seen on the bottom board of the hive. I have tried many ways, but the best I have found is to take good fine flour—wheat, rye, buckwheat or even fine corn flour. Put in a box as others direct, but press it down firmly and they will work at it very much the same as they would pollen from the flowers, and they will not smother in it any worse than gathering from plants, at least they do not for me and I have fed it by the 100 lbs. I generally put a little sweet anise close by it to attract the bees (for a few moments) and throw just a little flour on the bees at the entrance of the hive, and in from 10 to 30 minutes I have them at work on it, if they are breeding lively, and there is no pollen in the plants or trees, the day being warm and pleasant. It will not do to give bees all that they will carry in, or some of it will get so hard that they cannot get it out of the cells. I cut some out several years ago, that they had carried in faster than they had used up. M. Bailey.

Elk Creek, Ky., March 14, 1879.

I began the season of 1878 with 9 colonies of Italians which increased to 25. I got 450 lbs. of comb and 90 lbs. of extracted honey. Wintered them on their summer stands and lost but one colony, though there has been great loss of bees in this section. I had a great deal of trouble last season with my bees beginning at the bottom of frames in second story and building upwards. I gave them nice starters and cut out the comb from bottom of frames. Still they persisted in building up and in some colonies they would build both up and down. A. E. Norman.

[Bees will sometimes build from the bottom of the section frames upwards, and we know of no remedy that will absolutely prevent it. For, if "they will, they will, depend on it." To give them starters and cut away the comb below is about the only thing that can be done to prevent it.—Ed.]

Milledgeville, Ill., March 17, 1879.

Dear Editor:—In your mention of the Eclipse hive in the Journal for March, you stated that the surplus honey receptacles do not contemplate the use of tin separators. Now, lest the readers of your valuable Journal should get the wrong impression in relation to the hive, I will explain. In the hive sent, there was no allowance made for admitting tin separators. Where patrons desire the separators, I furnish them with the boxes complete for the bees, with boxes that may be glassed, if so ordered. For my own use, I make the sides of the boxes 2 inches in width, top and bottom 1½ inch in width, leaving a larger opening through which according to my own experience the bees enter the boxes more readily than where the space between the boxes is only ¼ inch in width. The boxes for comb honey are used on top only; each box has a wax guide for bees to start on. I have used side boxes but with me their use has not been satisfactory, and I have nearly discarded side storing. In reference to glassing boxes containing comb honey, I think we must be governed by the demand whether it be for glass or unglassed boxes. In the Eastern markets there is a fair demand for glassed boxes, but if I am not mistaken, the demand for such is diminishing and the unglassed box is gaining favor. In the West I believe unglassed boxes are more popular than the glassed. In fact, at all points at which I sell honey there is no demand at all for glassed boxes. Customers generally want to pay as little extra as possible in these hard times. In buying honey they want no glass included in weights. I put my comb honey all in crates which contain, lengthwise, three tiers of boxes and seven boxes in width, the same number as are used in each tier on the hive so that those next the sides of case on the hive come next to the glass sides of the crates. My crates hold 40 lbs. of honey and contain 21 boxes. I am glad to note the improvements in the Journal. Each number seems to outstrip its predecessor, if such is possible. It has beyond doubt the most able corps of contributors of any bee periodical in the world. Success to your efforts. F. A. Snell.

New Franklin, Mo., March 5, 1879.

I commenced the winter with 27 colonies—22 in American and 5 in Quinby hives; all are dead but 8. Four of the 8 are in Quinby hives. At the commencement of winter I put all but 4 (3 American and 1 Quinby) under a shed, facing the south, with some protection on the North. Of the 4 I left out, every bee died, including the one in the Quinby hive. One of my neighbors left his bees on the ground, without any protection; they were nearly covered with snow for two months, without any ventilation top or bottom, and all are living. Please answer the following in the April number:

1. Will it do to put new swarms in the hives the bees died in; they are full of comb with some honey?

2. How can I keep the moth out of them until swarming time?

3. Do the moth or the eggs live through a cold winter without live bees in the hive?

4. How can I get the honey out of old combs that have bee-bread scattered through them, or had I better keep it to feed the bees after pasture fails? Wm. H. Settle.

[1. It will.

2. Keep them in a cool place and in a closed, tight box, after fumigating them with sulphur.

3. A temperature of about 10° Fahr. destroys all germs of the moth.

4. You can extract the honey, and save it for feeding purposes.—Ed.]

Morrison, Ill., March 11, 1879.

Since last December I have received several communications and suggestions as to how to protect an apiary against night thieves, from barbed wire fences to watch dogs, but allow me to say that, that kind of protection is of no avail to the determined thief. Mr. Manum, of Bristol, Vt., says in February number that generosity and kindness !! is his protection, and that he gives to all that come, &c. I suppose that in the summer, as I live near a large town, I have from 2 to 20 every day, and bread and honey is always offered to those that will eat, and some to carry away. It has been my practice for years, and also to publish in our town papers invitations to all to come—but some are so lost to reason and kind treatment, as not to recognize the "mine and thine" of property. Bees have wintered poorly in this section the past winter; many have lost all, especially those kept out of doors. The weather now, March 11, is quite warm, but windy. My bees that were inside are still there. A large per cent out of doors in chaff hives are dead. I saw some bees with pollen on their legs yesterday.

F. W. Chapman.

Louisiana, February 27, 1879.

In the Journal for February, M. S. Baker speaks of a sun evaporator for thickening extracted honey. What is a sun evaporator, and what is the probable cost of one? I will run 125 colonies for extracted honey this season. Mr. Doolittle's criticism in the January number has set me thinking. My bees will have plenty of comb to build this year, and I want it to be worker. Do not natural swarms always build worker comb at first; if so, will it not answer as well to remove the combs from some strong colony (strengthening some weak colony), and put in their place empty frames? Will they not then build worker comb?

Louisianian.

[The process as used in California is described thus: "Upon receiving the extracted honey they place it in large settling tanks of 3000 pounds capacity, and this, securely covered, is left exposed to the rays of the sun for a day or so. By this process all impurities are eliminated, rising to the surface, and the pure honey is drawn off at the bottom."

Large natural swarms are apt to build considerable drone comb; more especially so, if honey is coming in rapidly. Small first-swarms and second swarms build the truest worker comb, and the most of it; and a colony with a young queen builds much worker comb. These facts may be taken advantage of by the skillful apiarist, in getting worker built instead of drone.—Ed.]

Freeman, Mo., Feb. 17, 1879.

The last season was not a very successful one, though I got 7000 lbs. of comb and extracted honey early in the season. After that they stored but little till after July, and that was dark. I put 180 colonies into winter quarters and lost only one. I filled the caps with flax straw and packed the same around the hives, giving ventilation through the honey board. My hives are in rows 6 feet apart; I drove 4 stakes into the ground around each hive leaving the tops level with the cap. I then put boards between the hives and stakes and packed with the straw from the ground up, covering the top with boards to lead the water off, leaving the entrance open. When snow is on the ground I slip wire-cloth between the entrance blocks and the hive to keep them from getting out in the snow. I think wintering thus is better than any other for the following reasons: The work can be done early, at odd times, not interfering with other business. It prevents the scent of honey escaping, to attract robber bees. They can have a fly at any time desired, during the winter. It dispenses with the trouble of carrying hives into the cellar or bee house. During cold spring days they are kept warm, preventing the destruction of brood, and hence keeping the colony strong. After thus prepared they need no more care till spring, except to remove the wire-cloth when it is desired to give them a flight; and lastly they may be fed for stimulating in the spring without fear of results. I clean the hive of all rubbish, and clear such away from the vicinity of each hive before they store any honey.

Paul Dunken.

Macon, Ill., March 15, 1879.

How long will it take to Italianize a colony of bees with a nucleus, a full hive, or a queen alone? Which is best? How can it be done? How long before swarming time would such have to be done to insure pure drones?

F. J. Stich.

[By introducing an Italian queen, the colony will become Italian as soon as the old bees die off—which in the height of the season, will be in from 6 weeks to two months. Probably the best way is to purchase a pure queen and introduce her. For the best way consult your Manual, or refer to page 206 of the Bee Journal for last June. A queen should be introduced as early as possible in order to secure pure drones—though it may be difficult to get a queen early enough to secure such.—Ed.]

Henry Co., Ohio, March 18, 1879.

Dysentery has killed more than three-fourths of the bees in this and adjoining counties. I think it was caused by late blooming plants on our moist, recently-cleared lands, secreting thin honey which our bees gathered too late in the season to properly ripen for wintering.

Daniel Kepler.

Milan, March 17, 1879.

My bees have wintered well. I built a bee house last summer, filled in the walls with sawdust, a foot thick, and had the same over head. I ventilated both at the top and bottom. The floor I made with hydraulic cement on dry sand, well packed; it is as smooth and hard as marble; no moisture can come from below. I have a shop in one end for hive making.

Samuel Fish.

Appleton, Wis., March 12, 1879.

From present appearances many colonies of bees will be minus this spring in Northern Wisconsin, mostly caused by negligence. Many will be lost, I think, by taking too much honey from the brood-chamber early, leaving the bees to gather stores of unripe honey to winter on, and in many cases a deficiency. I have about 130 colonies in my bee-house; they seem to be doing well; I did not extract from the brood-chamber.

A. H. Hart.

North Robinson, O., March 17, 1879.

In Feb., 1878, I bought a colony of native bees, in a straw hive. Last season it threw off a large swarm, after which I took from it about 50 lbs. of honey; it did not swarm any more and went into winter quarters with plenty of bees and stores, and came through all right, but they issued out Saturday the 8th inst., and have not yet come back. They left about 12 or 15 lbs. of honey, brood, both sealed and unsealed. I examined them about 10 or 12 days before they decamped and found plenty of bees and honey. What was the probable cause of their leaving their hive? I am well pleased with the BEE JOURNAL; you may consider me a life-long subscriber to it.

J. H. EBY.

[The cause of bees absconding *en masse* from their hives, as they often do, is as yet not satisfactorily accounted for. Mr. Butler, of Jackson, Mich., has reported a very marked instance of the kind and one that is entirely unaccountable.—ED.]

Monterey, Ill., March 10, 1879.

My bees began to work on the soft maples on the 6th. I use a cotton cloth over the frames with a chaff cushion 2½ inches thick over it. I give no upward ventilation, the entrance in the bottom board being the only ventilation they get. I had 34 colonies, and lost 1 by robbing.

JOHN BOERSTLER.

Bethany, Ill., March 10, 1879.

Bees in this locality are in good condition generally, where good hives are used. We had a good yield of honey last season after the white clover bloom. Our bees are in good condition after wintering. The BEE JOURNAL is a welcomed visitor. I regard it as indispensable.

A. M. RHODES.

Centerville, Iowa, March 13, 1879.

The past winter has been very severe on bees in this locality, following closely upon a scarcity of food last fall during the season that bees usually provide their winter stores, resulting in starvation. The efforts of a few bee-keepers have distributed a large number of colonies among the farmers who aspire to the production of honey sufficient for home use; but little is sold in the market, and that little at very low figures. There are about 10 apiarists in this county that understand bee culture pretty well, and make a fair success, while a large majority of the remainder have progressed so far in the science as to almost believe that at the death of the "King Bee" by some wonderful legerdermain another "King" can be produced.

J. A. TALBOT.

Lowell, Ky., March 18, 1879.

Last fall I had 82 colonies to winter; but as the previous winter was so mild as hardly to be called winter, I paid no attention to more than one-half or two-thirds of them, thinking they would go through safe any way. On January 25th, the first day warm enough, I examined them. Five of the weakest had died; three having starved, and the other two had left plenty of honey. Now fourteen more are gone; six starved, eight left honey, and some more than enough to have wintered them again. Nineteen out of eighty-two, is the worst loss I ever had; and is due mainly to the long continued severity of the weather. From this time there is no danger of the loss of any more, unless we have an unprecedentedly cold spring. A friend, about 20 miles distant, wintered twenty colonies, by putting them into a cellar during the cold spell, without the loss of a single colony.

I have used Bingham's smoker for the past few years, and not one has had more rough handling than it has, and still it is as good as new. If any man *can* produce a better one than Bingham's, he will confer a great favor on the bee-keepers of the United States.

R. M. ARGO.

Rochelle, Ill., March 17, 1879.

Last fall I had 40 colonies of bees; now I have but 10, and 2 or 3 of them very weak. The others died mostly of dysentery. I had them all out of doors till Jan. 20. Then I put 24 of them into the cellar and left 8 out. Of those put into the cellar 7 are living, and of those left out 3 are living—10 in all. Most of them had plenty of honey. What shall I do with the combs? They are badly daubed up. I fear the moths will trouble me. The combs are straight and in Langstroth frames.

C. S. HUBBARD.

[For method of cleansing combs see the first page of the JOURNAL for March. Fumigate them and put them into a tight-covered box for safe keeping and protection from moths.—ED.]

Warsaw, Ont., Canada, March 17, 1879.

We have a long winter, snow being now about 2 feet deep, cold has been severe—on one morning 30° below zero. My bees, (82 colonies) are on their summer stands, 2 inches from the ground. These I buried in the first snow that came last fall; they remained covered up, and the hives quite invisible, till March 9th, when a few warm days took the snow down, so that I could examine them. I am pleased to say that they are in good condition, only one dead, and that one starved, no honey in hive. The combs are dry and bright and the bees are healthy and strong. I have 22 colonies in a bee house and on these warm days they are very uneasy, and many of them crawled out on the floor, and do not seem to be in as good condition as the 81 wintered out of doors. I do not think there can be any better way to winter bees in this far North latitude than that of out doors, and well covered with snow. I have tried it thoroughly and with good success every time. Many of my hives have only ½ inch ends next the snow, and they are all right. The temperature is very even as long as no part of the hive is exposed above the snow.

GEO. GARLICK.

Waterloo, Ky., March 10, 1879.

I had 13 colonies of bees in Langstroth hives, and wintered on summer stands, with straw cut up fine in the upper story. I have lost 2 colonies, 1 from a leak in the side which got the bees wet in the cluster and froze them; the other died from cause unknown. They left plenty of honey in the hives. My bees dwindled badly this winter, a large number dying in all of the hives and they are now very weak in numbers. The thermometer went as low as 19 and 24° below zero this winter. My bees are bringing in pollen to-day for the first-time. I am bothered with robber bees so that I cannot handle my bees as I would like to. When I attempt to open up a hive my neighbor's bees come in by the thousands, and I have to let my bees go till they quit coming. They have plenty of honey in all of the hives to last till fruit bloom. The Journal is a welcome visitor here. I would not do without it for three times the cost. The thermometer ranged last week from 65 to 80° above zero. R. L. Aylor.

Long Grove, Ky., March 10, 1879.

Went into winter quarters with 25 colonies. Lost 7 on summer stands; frozen; all had plenty of honey. Think I will adopt some of the various plans to protect them next winter. All wintered well in double-walled hives. I hear that a good many owners of bees lost all they had. I have been a bee-keeper 16 years, but knew nothing about the management of bees until I took the American Bee Journal. No bee-keeper should do without it. White clover is the main honey producer in this county. It has stood the winter well, and we have a good prospect this season. What kind of mustard is best for bees? We have what is called black mustard. Enclosed please find a twig cut from a tree in my yard, that is nearly in bloom, and which my bees work on very early. Please state what it is called. My bees commenced bringing pollen on the 7th of March. I want to Italianize some of my bees this summer. L. T. Mobberly.

[Black mustard is as good as any of the mustards, at least it has proved so here at Lansing. The twig is that of the willow. I am unable to give the species, with so small a specimen.—A. J. Cook.]

Lawton, Mich., March 10, 1879.

I have 50 colonies (43 in the cellar and 7 packed in chaff on their summer stands) all wintering well. I had 28 colonies last spring and increased to 52. I got 1500 lbs. of honey, mostly comb. I sold 2 colonies. Many in this section have lost their bees during the past winter. J. D. Ward.

Malcom, Iowa, March 1, 1879.

A few days ago I made a trip around the county to see how bees have wintered. Seventh-tenths of those in board hives are dead, killed by frost and ice in the hives; some have lost their last colony. Those in double-walled hives, with chaff box on top, are all in fine condition, and are now breeding. A hive is desired that is and has been proved to be a success in wintering on summer stands. Too many commence the business with high expectations; as for instance two or three swarms from one, and a 100 lbs. of honey from each. A moderate increase, such as doubling and 50 lbs. of surplus to each hive, ought to satisfy the most ambitious. Wm. Clement.

Concordia, Mo., March 19, 1879.

Editor Journal:—There has been a man here calling himself C. H. Kidder, who represented himself here as your agent for the Bee Journal, who stated to several German farmers here that you published the Journal in the German language, and obtained a number of subscribers here who paid said Kidder the price of subscription for your Journal, and that is the last they heard of him. I would warn all your readers against this imposter, and hope that none will be duped hereafter by said Kidder.
Christ Brunke.

[This same imposter has visited other localities assuming different names, offering all kinds of impossible things to induce persons to subscribe for different publications. We employ no traveling agents, and no one should pay money to persons they are unacquainted with; it is always risky.—Ed.]

Howell, Mich., March 11, 1879.

My 8 colonies of bees wintered out of doors, packed in chaff, came through all right, while some of my neighbors suffered heavy losses. I gave my bees some unbolted wheat flour, which the Italians work on very lively, but the blacks do not touch it. I have 4 Italian and 4 black colonies.
Edward Greenaway.

Mt. Clemens, Mich., March 3, 1879.

The past winter has been one of great loss to apiarists; many having lost more than one-half of their bees up to this date. I cannot tell how my bees will come out, as they are yet in the pit, where I intend to leave them as late as I think it will do. I may find them in as bad order as those wintered out of doors, but hope for the best. I buried them with much care.
Wm. P. Evritt.

Byron, N. Y., March 10, 1879.

After a long steady winter our bees have had good flights for two days, having been confined to the hives since December 1st. We have not had extremes of temperature here during the past winter. It was 90° below zero once, but it has averaged from 10 to 26° above. The bees were flying from all the hives (114) to-day and only 4 of them are seemingly weak but they appear strong and healthy. I never saw our bees in as good condition at this date as they appear from the entrance of hive. I picked a drone from each of 2 hives—dead. J. E. Moore.

Eminence, Ky., Feb. 22, 1879.

I have gotten up a new hive, but it is not patented, nor do I wish it. Mr. Muth named it "Eureka." I have 7 different patent hives in my yard, but I think this far superior to all. I use 9 frames in the brood chamber, and section honey-boxes. The frames are 9x13½, and 1¾ inches wide. Double entrance of ¼x5 each; 4 in. portico on the side, no honey board; 2 honey boxes with frames 6½x6½, entrance from brood chamber cut out of the frames for each box. I have 2 division boards, use only one unless I wish to put 2 small colonies in the same hive. L. E. Brown.

Coopersburg, Pa., March 7, 1879.

The last season was a poor one for bee keepers generally, giving much increase but little honey and they have wintered badly. I lost 4 colonies by dysentery, and several of my neighbors have lost a great many in box hives, with plenty of honey. Is the honey of such colonies of any use? How can it be cleansed? PRESTON J. KLINE.

[These questions were answered in March number, page 97.—ED.]

Wyoming, Iowa, March 13, 1879.

I removed my 99 colonies of bees from the cellar on the 4th inst. All in good condition. They are at work on rye meal nicely. There has been considerable loss by those who wintered out of doors in this locality. I think that the requirements for successful wintering are a well ventilated cellar with an even temperature of about 40°. My bees have come through 4 winters without the loss of a colony. J. E. HUNTER.

New Boston, Ill., Feb. 20, 1879.

What is honey? Webster says it is a sweet fluid gathered by bees from the flowers of plants. Honey is the nectar of flowers. And that which is not nectar is not honey. Then *honey-dew* is not honey, but is the secretion of plant lice. Bees gather it and deposit it in the hive and many of us have sold it for honey. If we get such a law passed as we wish, will we dare to sell honey dew under the name of honey? Will it pass by the analyzer for honey? Will some one who has some honey-dew, get it analyzed and report to AMERICAN BEE JOURNAL. D. D. PALMER.

Carson City, Mich., March 21, 1879.

Bees have wintered poorly in this locality. The old-fashioned bee disease, called dysentery, has thinned them out again. The 12 colonies that I wintered in the new hive, "the winter protector," have wintered splendidly, as also those in the cellar.

HIRAM ROOP.

Lynn, Ind., March 21, 1879.

This has been a very severe winter on bees in this locality. Of those wintered on summer stands without protection, about ¾ have died. My bees are in excellent condition, having been packed and surrounded by chaff 6 inches in thickness.

E. JAS. HINSHAW.

Parkham, Maine, Feb. 27, 1879.

I started last winter with 30 colonies, 20 packed in chaff and 10 in cellar. Those in chaff (Feb. 26) are pure and more populous than when put away; are breeding now, I think they will come through strong; those in cellar are not doing so well. I have made a saw like the one described by Mr. M. S. Baker, in Vol. XIV., No. 6, of AMERICAN BEE JOURNAL. I like it very much; it works nice. I have the "boss" roof for hives; it beats everything for keeping the rain out of the hive, it looks nice and tidy. It is made of slats, I have them in two pieces; I cut a groove in the ridge pole and slip the slats in; one board makes one side; the roof is square; the gable ends are pine boards.

W. H. GREEN.

Indianola, Iowa, Feb. 5, 1879.

For dysentery we take a small broom and spray the bees with a syrup made of loaf sugar; three applications will cure the worst cases we have seen. MORRIS & ENO.

Palmyra, Mo., Feb. 22, 1879.

I have 90 colonies, and have lost none this winter. They are in good condition, and strong. I have a tight board fence on the North and West of my bees, which I believe is a good protection. I have a substantial honey house, and I think I am as well fixed for the business as any one in the State.

M. E. MCMASTERS.

Bloomington, Ill., Feb. 26, 1879.

We are wintering 115 colonies of bees on their summer stands. They are all right but 2, which froze with plenty of honey in the hive. They were protected with cushions at top and sides and put away in good condition. We are much pleased with the JOURNAL; could not do without it. It seems to improve with age. May it live a thousand years. J. L. WOLCOTT.

Carlinville, Ill., March 11, 1879.

We put our bees out on March 7. We have 128 colonies. We called the roll, every one answering to the call. We looked them all through, found one queenless. There are a few weak; were not strong in the fall. We would have united them but wanted to keep the queens over. Take them altogether, they are in splendid condition—the best we ever had them in the spring. A great many colonies, left on the summer stands, have died. VALENTINE & SON.

Oregon City, Oregon, Feb. 13, 1879.

This has been the coldest winter Oregon has had for 4 years: and we have had more cold weather the past winter than was ever known here before. My bees wintered on their summer stands and are in good condition; they did not consume over 10 lbs. of honey. Thermometer to-day stood at 60°. Bees are gathering considerable pollen from the catkins of the hazel and alder. There are a good many flowers in bloom, but they do not produce any honey yet. Frogs are singing, bees rejoicing, and we have every indication of a good spring for our honey gatherers. A. W. STEERS.

Old Rocky Hill, Ky., March 7, 1879.

I read the AMERICAN BEE JOURNAL with pleasure. I use the "Golden Bee Hive." It differs from all other hives in construction. When anyone wishes to examine the colony, he has only to move the feed board in front of the hive, where the combs and bees in the brood chamber can be seen, and can also ascertain if the bees are making comb, or honey in the surplus apartments, without disturbing the bees. The feed board can also be reversed front to rear, so that the bees may be fed by the use of the vacuum feeder immediately over the bees and brood to prevent their passing through empty combs and chilling them. It is so constructed that complete ventilation can be had, during both winter and summer. Honey can be taken from the top of the hive without coming in contact with the bees, if desired. E. L. OWENS.

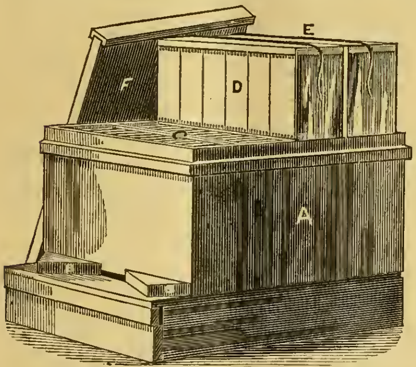
Correspondence.

For the American Bee Journal.

The Hive "I Prefer."

JAMES HEDDON.

The cut below will assist much in explaining the hive "I prefer" and am using. It is an eight-frame Langstroth hive, without porch (which I have discarded), and what I claim as improvements of my own are partly shown in the illustration. The bottom stand is simply four pieces of pine. The front and back pieces are narrower than the sides, the front being nailed on to the side ends, while the back piece goes between the sides. The back end of the stand admits of ventilation under the hive. The bottom-board is only 13 inches wide, and as the grain runs from the front to the rear (allowing us to use narrower lumber), we put a cleat across the front that prevents warping, and fits the bottom stand tightly. The cut shows the hive slid slightly forward upon the stand. We use the simon-pure Langstroth blocks, and think them best. The top bars of the movable frames are heavy, and their sides run straight down ⅝ of an inch before the bevel commences. I know that this shaped bar gives truer combs, and less comb-pieces between their tops and the the honey-board or surplus receptacles. The honey-board (C) is a skeleton composed of strips, and when complete forms four sinks of sufficient size to each admit of a clamp of six 5x6 sections. Now, you will see that the bottoms of the clamps (D, E) rest bee-space above the honey-board, except just at their edges. Experience has convinced me that with a honey-board of this description the bees work as readily as with none, and it gives us these two great advantages: We can remove the whole surplus arrangement at once when we wish to take out the frames, and we can move each individual clamp much easier, as they are clean at their bottoms, and this is a satisfaction when we come to crate them for market. To make up a clamp as is shown by D or E, we place 6 sections side by side, put a pane of 5x6 glass at each end, and then clamp all by springing on the wire as shown in the cut. This wire is a No. 12 coppered, which is the stiffest and most elastic. To cover up the openings above I use a pine board, smoothly dressed on both sides, that just covers the whole clamp. It is 12x5x⅝ inches. I much prefer using sections with open tops, as by removing the little board cover we can blow down the bees in a jiffy; and can you imagine an easier arrangement by which we can remove any one finished section and leave the rest? You may think this wire too small to have strength enough to hold all firmly together. We do have to handle the clamps with care before they have been given to the bees, but this arrangement, different from all others, works much better in the apiary than in the cabinet shop or hive-vender's wagon. The cap that I use is a little new also. It is merely an 8-inch rim, made so that when shoved to the extreme forward or backward, it admits of a ½ inch space for ventilation. When drawn to its central position, it closes tightly. When the cover (F) is laid down so that the end cleat rests on the rim, then we have a ventilation above also. When slid an inch or less over the rim, all is closed tightly. Little cleats on each side of the rim enable us to lift off the rim and cover with one motion, the same as with any cap. Now, when we wish to "tier up," and put 48 sections on a hive (which we often do), we have only to omit the little board covers on the clamps to be slipped under the nearly full ones, and bring out another cap rim. The rim is not shown in the cut. I make sides of the rim, bottom of the hive and cover of ⅝ pine, dressed both sides; the sides of hive ¾, and the ends of hive and rim ⅞.



The Hive "I prefer."

After spending four or five years in thinking and experimenting upon hives, I came to the conclusion that no one hive could embody *all* the advantages. I give the above description of the hive which, it seems to me, contains the *most* useful features of any one with which I am acquainted, and at the same time is free from all troublesome complications.

Dowagiac, Mich., March, 1879.

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For the American Bee Journal.

Glucose: Answer to Dr. Foreman.

CH. DADANT.

Dr. A. W. Foreman questions my statement that the best chemists of France, England and the United States say that glucose always contains more or less sulphuric acid, sulphate of lime, or lime, and wants me to give the names of the best chemists, and titles of the books and pages where these statements can be found. I reply:

Mr. Kedzie, who is professor of chemistry at the Agricultural College of Michigan, and President of the Board of Health of that State, has given the result of the analysis of 15 samples of glucose, sold as table syrups; every one of which contained either sulphate of lime, sulphate of iron, sulphuric acid, lime or sucrate of lime, or several of these compounds. See AMERICAN BEE JOURNAL, April, 1878, page 128.

Mr. Chas. Loudon Bloxam, in his "Chemistry Inorganic and Organic," second edition, Philadelphia, page 524, says: "Sulphate of lime will generally be detected in sugar or honey adulterated with glucose." Mr. Chas. Loudon Bloxam is professor of chemistry in King's College, London, in the Royal Military Academy, Woolwich, and in the department of artillery studies, Woolwich.

A. Payen, member of the French Academy of Sciences, professor to the conservatory of arts and manufactures, and at the central school of arts and manufactures of Paris, in his "Industrial Chemistry," fourth edition, Paris, vol. 2, p. 101, says ; "Sometimes glucose is mixed with sugar syrups ; in this case it is preferable to use syrup manufactured with diastase, which, containing no sulphate of lime, does not possess either the insolubility nor the disagreeable taste of the syrups manufactured with sulphuric acid."

I have said that glucose is not manufactured with another acid, but with sulphuric acid, and I maintain what I have said, because sulphuric acid is the cheapest.

Dr. Foreman says that glucose can be manufactured without acid, by using diastase or ferment. This kind of syrup is not called glucose, but sugared dextrine or imponderable syrup, on account of its viscosity, which prevents the use of an aerometer to ascertain its density. This syrup cannot be converted in a solid mass like glucose, and is out of the question, since it has not been, so far, used to adulterate honey or sugar, nor to feed bees, for they cannot get rid of it on account of its viscosity.

Payen, in the same book, p. 91, says of this sugared dextrine : "These syrups are more appreciated than the syrups manufactured with sulphuric acid, for they have a more agreeable savor, they contain no sulphate of lime ;" and further : "You can give to the syrups manufactured with the sulphuric acid the consistency of the imponderable syrup, by boiling them down, but the unfavorable properties of these syrups persist."

Is it not wonderful, that all my references agree to show that glucose is unhealthy, while all the authors cited by Dr. Foreman profess a contrary opinion ?

Dr. Foreman narrates that in the winter of 1877-'78 he fed 2 colonies of bees with solid glucose, and succeeded in wintering them all right. I have answered him in the same number of the JOURNAL, page 118. The winter of 1877-'78 here was unusually mild, about like the winters in France ; the bees could fly nearly every week. Then the success of Dr. Foreman cannot be relied upon in a very cold winter like the one we have just experienced.

Besides, I have read in the French reports on the use of glucose for bees, that some bee-keepers praise it, while some others complain of having killed their bees with it. The same results begin to be obtained in this country. I read in *Gleanings* for March, pages 86 and 100, that Mr. Wm. Debout, of Savannah, O., and Mr. N. Case, of Orangeville, O., have killed their bees by trying to winter them on glucose ; while Mr. E. A. Gastman succeeded in wintering them on this stuff.

It seems, also, that Mr. Root was not very successful in his wintering on glucose, for, in his paper for February, he narrates that his loss, Jan. 30, amounted to 10 colonies, out of 163. Of course, Mr. Root knows as well as either of us how to winter bees, and a loss of 6 per cent., and probably more, seems to be very great, if we consider the skill of their owner. Mr. Root did not explain what killed his 10 colonies (or more, for some may have perished since) ; we hope for him that they had not been fed with glucose. Whatever the cause, the reports that I have cited above are sufficient to caution every bee-keeper against the use of so poor a substitute for good sugar or honey, especially when we take into account that the profits derived from its use are very questionable.

Some bee-keepers will probably think that, although glucose is not reliable for wintering bees, it can be used as food in spring to promote breeding. I will ask these gentlemen whether they would nurse their children with a food which is disliked by full-grown people to such an extent that some had preferred to die rather than touch it, and which has sometimes killed those who used it ? Such a question is answered as soon as uttered. The best food is the most convenient, if we want to rear strong, healthy children or animals. Bees are not an exception to this rule.

Hamilton, Ill., March, 1879.

For the American Bee Journal.

Comb Foundation in Surplus Boxes.

C. R. ISHAM.

As supplementary to my article on comb foundation, in the March number, I would say that I do not, by any means, wish it understood that I would advocate the using of thick or unsuitable foundation for surplus honey, or anything that would in the least be objectionable to the consumer. It should be the aim of every honey-producer to maintain a high standard of excellence for American honey. We intend the coming season (nothing unseen preventing) to use the new style of foundation, with flat-bottomed cells, of very thin base, and measuring 9 or 10 square feet to the pound. Such foundation, I think, can hardly be detected in comb-honey, especially when it is properly drawn out by the bees, and is far superior to old-comb starters. The past season I noticed that when the foundation used was very thin, and of proper quality, that the fact of its having been in the surplus honey would hardly have been noticed, except by a very close observer, and then, as before stated, would not be anywhere near as objectionable as though one-year-old comb had been taken for starters. We do not want, nor do we intend to have any wax-board in the centre of the comb-flake. In my style of boxes, I can ship honey with perfect safety (except careless handling), although the comb may be newly built and very tender.

Peoria, Wyoming Co., N. Y.

For the American Bee Journal.

Best Bee Pasturage.

JOHN H. MARTIN.

After perusing Prof. Cook's valuable essay upon bee pasturage, as read before the National Convention, I am incited to give my experience.

At the close of the season when the bee-keeper has time to sit down and count up his pounds of honey, he finds that his surplus has been gathered in the space of a few days of spasmodic yield. As he jots down his last figures he heaves an audible sigh, Oh! for a continuous honey yield, and thinks that if he had such and such plants growing by the acre what piles of honey he would have. If he has the land upon which to sow honey-producing plants the question is: will it pay to sow exclusivelyfor bees?

Nearly all plants can be kept in blossom through the entire season by sowing at different periods. And a few plants continue to blossom naturally through the entire season, but do they secrete honey at all times? Our experience is somewhat limited in this matter, but we think nearly all plants have their season of growth, flowering, secreting honey and maturing the seed. It is the nature of buckwheat to mature its seed during the cool nights of August and September, and if sown at an earlier date than about the first of July, it fails to produce a crop, or to secrete honey. We usually have a fine yield of basswood honey of beautiful quality, but a few years since we saw a near neighbor sowing several acres of buckwheat about the first of June, to be plowed under for green manure. We knew, as a natural consequence, that the buckwheat would blossom at the same time of our basswood yield, and we got somewhat excited about it, thinking our beautiful honey would all be spoiled. We were going to hire our neighbor to plow his buckwheat under before it blossomed but he would not, and soon the field was white as snow. We visited it anxiously several mornings and were happy to find not a bee at work upon it; not an ounce of honey was gathered from it, and our basswood honey was as beautiful as ever. Since then we have had little faith in sowing continuous crops for honey. If you have buckwheat in continuous bloom from early spring until fall you will get honey only in the fall months; it is probably so with many other flowers. Our clover removed one month earlier or later would be a failure; even in the height of its season how much it depends upon the elements for its successful yield.

It may be different with a flower that blossoms continuously, for instance the blue thistle (*Ichium vulgare*), blossoms from June until frost and bees work upon it at all times, but its main yield is in July.

The subject of pasturage will probably receive more attention at no distant day, and those plants most useful to the bee-keeper will find their place upon every honey farm. We hope to have an acre of mignonette next season and will report its success or failure.

FEEDING GLUCOSE.

I wish to protest against feeding bees glucose or kindred substances. Every bee-keeper has a local reputation, and if he studies his own interests he will strive to keep that reputation good. Many in my neighborhood are astonished at my yield of honey (an average yield of 100 lbs. per colony), and scores have asked me what I feed my bees. Suppose a local purchaser should come into my bee house and see a box or barrel of glucose, would any argument of mine convince him that I did not get my yield from that substance? I should be ashamed to have even a barrel of sugar in sight, for I find many people have a prediliction for thinking we can feed sugar and make it into honey, and sell said honey cheaper than the sugar before being fed! The best argument is to keep all foreign matters, not only out of sight but off your premises, unless it is to feed for the salvation of your bees, in times of drouth.

North Granville, N. Y.

For the American Bee Journal.

The Shrew, or Bee Mole.

W. J. WILLARD.

I see an article in the March number of AMERICAN BEE JOURNAL, on the "Bee Mole." I know the little fellow, have known it for the last 18 years; its proper name is shrew, and it is the smallest member of the shrew family, I do not know its Latin name, but I do know it personally. Have kept it in a cage until it became tame enough to eat from my hand and allow itself to be handled. Its food consists entirely of insects and worms, though if very hungry it will not refuse a bit of raw beef. It delights to live about bee yards in winter, where the bees are left on their summer stands. And during such a winter as we have just experienced it will do serious damage. I had two strong colonies of bees destroyed this winter by the shrew mice, and several more much injured; they do not trouble the honey but live on the bees. I protected my hives from the larger mice by placing before the entrances a piece of tin in which I had cut holes ¼ inch square; through these holes the shrew passed while they were in a starved condition, after getting into the hives they got fat and could not get out, so they died, probably from want of water, for I found them dead in nearly every hive which showed the effects of their visit. I found from two to three dead shrews in the colonies which were most injured. They eat the thorax of the bee leaving the head and abdomen untouched.

I think Dr. Greene must have procured a large sized specimen and a fat one, for they do not generally average more than 1½ to 1¾ inches in length and about ½ inch in width. While a boy I passed many pleasant hours with my pet shrews. I supposed they were well known and had been spoken of in the earlier bee papers.

Jonesboro, Ill., March 4, 1879.

For the American Bee Journal.

Atmospheric Bee Feeders, &c.

JULIUS TOMLINSON.

In the article in the February number of the BEE JOURNAL, written by Mr. Bingham, there occurs this passage, "C. C. Van Deusen holds a valid patent on all the 'tea kettle' and other atmospheric feeders in use. I mention this that bee-keepers may know who should have the credit, and the reward of this valuable 'invention'."

During a visit at the home of Mr. Bingham, a few days since, I had the pleasure of seeing this "Atmospheric Feeder." I told Mr. Bingham that this was nothing new, and to-day in looking over the old BEE JOURNALS of past years, I find abundant proof of my statement. In the number for July, 1868, John M. Price gives a description of such a feeder, to be made of a glass jar with air-tight top. This top is to be punched full of small holes, where it was to be filled and inverted over a hole in the honey board. He remarks "the principle is to have a vacuum and no vent on top; then you may tip it like a barrel of cider, but unless you give it vent, nothing will run out." Also in the September number for same year, the same writer again describes this feeder, with this variation, "tie a piece of fine cotton cloth over the mouth and place the neck of the bottle in a hole over the cluster of bees."

Next—In the January number for 1874, W. M. Kellogg, describes Adam Grimm's Bee Feeder. This description is same as above only a tin can is recommended. He says, "the can must be perfectly air tight."

Next James Heddon is called. His testimony is found in the number for April, 1874. Mr. Heddon recommends a two quart fruit jar. "Punch about seventy-five holes the size of a pin, through the cover, and then after filling the jar, screw on the cover, and invert through a hole in the honey board, and you will have a twenty-five cent feeder."

Next—AMERICAN BEE JOURNAL for November, 1876, Rev. J. W. Shearer says, "perhaps the simplest feeder is an inverted fruit can, with a piece of thin cloth tied over the top."

Also in September number for 1875, Mr. A. Benedict says, "Glass tumblers will answer; fill with syrup; tie a piece of muslin over the mouth of the tumbler; turn bottom up, and place them over the bees."

Since writing the above, I find in Nellis' circular for 1878 that C. C. Van Deusen patented his feeder in July, 1870. This would give him a priority of invention, over all the above descriptions, except those given by John M. Price in 1868. This it seems to me would cut him off as an original inventor.

I have no wish to detract from anyone's well earned laurels but I do not believe that the principle of the suspension of liquids by atmospheric pressure can be the foundation of a valid patent. The principle is too old. It was used by the Egyptians, in the construction of syphons 1450 years before Christ. And doubtless this principle, in the syphon, was used to draw the water that was made wine at the wedding "in Cana of Gallilee." And in the time of the Pharaohs, Heron describes a drinking cup that "no man can drink out of it, but he who knows the art." See Eubank's Hydraulics Book V., and in the same work, Book II., we find cuts of atmospheric watering pots, embodying the same principle, published as early as 1616, and the vestal virgin Tutie, who performed the seeming miracle of carrying water in a sieve, from the Tiber to the Temple of the Goddess, was probably only a chosen device, in which the same principle, was the means of her success. Many other ancient and modern devices, in which the suspension of liquids by atmospheric pressure is the leading principle, are also described in the same book.

But Mr. Bingham also showed me the flat-bottomed comb-foundation by Mr. Van Deusen's process. I have no reason to doubt its originality or its great value to bee-keepers, and doubtless he will reap from this alone an abundant reward.

In the letter from Mr. Thurber published by you, he says that "pure glucose....is as wholesome as honey." If this is so, why so much about the "coming war?"

Allegan, Mich.

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For the American Bee Journal.

Standard Langstroth Hive.

M. M. BALDRIDGE.

On page 427 of the AMERICAN BEE JOURNAL, for December, I stated that the standard Langstroth frame, as given in Mr. Langstroth's book, is precisely 17⅜ inches long, outside measure, and not 17⅝ as given by Messrs. Root and Newman. It seems that the matter was referred to Mr. Langstroth for his decision, who responds by saying that he should prefer 17⅝ to 17⅜. What Mr. L. *now* prefers has nothing to do with the point at issue. If the reader will turn to page 372, of Mr. L.'s revised work on bees, these measurements of the standard frame, as given by Mr. L. himself, will be found: Top-piece 19⅛x1⅛x5-16; bottom piece 17⅜x⅞x¼; end pieces, each 8⅝x⅞x½.

As the bottom piece is nailed to the end pieces it must be apparent that the outside length of the frames is 17⅜, as I have stated. It will be seen also that the outside width of the frame is precisely 9 3-16. Near the top of the same page the precise inside width of the hive is given as 14⅛, and the outside length at 19⅞. As boards precisely ⅞ inches thick are used then the exact inside length of the hive is 18⅛ and not 18, as given in my former article. This gives a space of ⅜ between the ends of the frame and the hive and not 5-16 as before stated. So much for facts and figures.

I will now give the measurements for the standard frame that I prefer: Top piece 18¾x⅞x5-16; bottom piece 17⅜x⅞x3-16; end pieces 8⅝x⅞x⅜.

It will be seen that I make the top-piece ⅜ less in length and ¼ less in width than Mr. Langstroth recommends. I find in practice that the projection is ample. Mr. L. thinks beginners may get along with a top bar only ⅞ wide, but he prefers 1⅛. Still, if ⅞ is wide enough for beginners it ought to be with men of experience. I will venture the assertion that nine-tenths of the "old hands" in bee-keeping are now using top bars exactly ⅞ wide. There are several very good reasons why this width is better than 1⅛, and none why 1⅛ is better than ⅞. I make all my standard hives 18 in. long, inside measure, and find the space 5-16 at the ends of the frames is ample. Langstroth recommends ⅜ and Quinby ½. I think Quinby gives too much space for a shallow hive, but perhaps none too much for such deep frames as he recommends.

From the above it will be seen that my standard frames will fit any standard hive made by other parties, and that their frames will fit my make of hives by simply cutting off each end of the top piece 3-16 of an inch. But I cannot use a frame 17⅝, in my 18 inch hive, with any degree of satisfaction; because there would be only 3-16 space between the hive and ends of the frames and this space is liable to be filled with propolis. When thus clogged, the frames would be practically, or at least disagreeably, uninterchangeable.

St. Charles, Ill.

[Mr. Baldridge is right about the desirability of securing uniformity in the size of frames. Nothing is more annoying than to have frames vary just enough to be useless for interchanging. Many will vary the size from ¼ to 2 inches just to suit a notion. Such should never be done. Uniformity is exceedingly desirable.—ED.]

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For the American Bee Journal.

Wintering, Adulteration, &c.

M. E. LOEHR.

Scientific bee culture in northern Indiana is as yet little practiced, many believe in "luck" and "chance," though superstition is on the decline. Box hives are almost universal, yet many improved hives are used. The number of colonies in this (Kosciusko) county has been reduced during the last two winters, more than one-half, especially those who have left their bees unprotected on their summer stands. The present winter has been an extremely cold one, the thermometer standing as low as 23° below zero; it was below zero for nearly one month. I have had the best success wintering in the cellar. I never saw bees winter as well out of doors as in the cellar. I never lost a colony in the cellar. The one I use is so dry that it is almost dusty. I put them in when the hives were full of ice, water and snow, but in a few hours the hives were dry and nice. The hives have abundance of upward ventilation. With closed-top hives, such as the American, I leave the entire space above open. I think it best to use a quilt on such hives as the Langstroth. The object of upward ventilation is to let the moisture escape, for without it the colony would soon perish on the account of mold. We might as well leave them on their summer stands as to put them in a damp cellar.

My bees seem to be in the very best condition, but some were troubled with dysentery. I put them out Jan. 29th, and they flew two days in succession. After the second evening I carried them into the cellar again. These two days were very warm and the bees improved the time. The only fault I find about wintering in the cellar is the labor in carrying the bees up and down the stairs.

I have adopted the Langstroth frame and I use a modification of the Langstroth hive, made to suit my own fancy. I have been using hoop-iron ¾ in. wide for metal rabbets for the frames to rest upon. I think that such are of more advantage than tin.

ADULTERATION.

It seems to me that intelligent persons would soon see the evil effects of adulterating honey. C. J. Quinby remarked in the February *Bee-Keepers' Magazine:* "Bring forward one case where a person has been injured by eating glucose; thousands of pounds are being eaten daily....It is a little singular that some one does not find out and show up its poisonous qualities."

Everybody knows that all articles manufactured for food will not kill any person out-right; but give it its time and if it contains impurities, as glucose generally does, it will leave its effect on the system. Nearly all syrups are adulterated to a great extent. They are principally made of glucose sulphuric acid and old rags. Thousands of pounds of this are being eaten daily. Why don't this kill everybody that eats it? Did you ever hear of any one being killed by eating syrups. No! But we hear of somebody being sick almost every day, having sick stomach, indigestion, &c., and a hundred other ailments.

All articles adulterated with such things are unfit to enter the human stomach. It is daily working on the human system somewhere, producing weakness and inducing many diseases.

Palestine, Ind., Feb. 20, 1879.

[In the BEE JOURNAL for April, 1878 will be found Prof. Kedzie's Report on the Adulteration of Table Syrups, made to the Michigan State Board of Health. In it, the proof is given of the poisoning of a family by the name of Doty, in Hudson, Mich., by the use of glucosed table syrup, containing "71.83 grains of free sulphuric acid, 28 grains of sulphate of iron and 363 grains of lime." Its effects on the human system is, as we have before said, most deadly. It induces disease which unless arrested will result in death.—ED.]

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From the British Chemical News.

Sugar in the Nectar of Flowers.

ALEX. S. WILSON, M. A., B. SC.,

Fellow in Natural Science, Glasgow University.

Nectar is the term applied by botanists to the sweet-tasted fluid which is secreted within the cups of insect-fertilized flowers; and the object gained to the plant by its presence is that insects, induced to visit flowers for its sake, are useful to the plants by effecting a cross-fertilization. Mr. Darwin has shown what an amount of additional vigor is thus conferred on the seeds, which subsequently result in contrast with the evil effects produced by in-breeding. In many instances this sweet liquid is exuded from special glands, but in other cases from portions of the flower that do not seem to have been especially adapted for this purpose. Morphologically, nectaries may represent very different structures, but not unfrequently they are of the nature of an aborted organ—such as a petal or stamen.

It is a point in dispute among biologists, whether this saccharine matter is a true secretion or simply an excretion of effete matter from the vegetable cells—a by-product of the chemical changes taking place within these cells. The latter view seems to be favored by the fact that a similar sweet-tasted fluid, much sought after by insects, is exuded on different parts of some plants quite unconnected with the flower, as in the laurel, brake-fern, lime-tree, acacia, etc. As to the use of such exudation of sweet liquid, various suggestions have been made by those who are disposed to regard it as a true secretion; as for instance, that it serves as an attraction to certain insects, to frequent the plant, rendering service by keeping off animals to whose attacks the plant may be subject. Probably this is to some extent true, but it cannot be said to hold universally. Nectar is of course the source whence the bee derives honey, but it also affords food to many kinds of insects which do not possess the habit of storing up.

A division of the humming-birds is named Melliphagi, on account of living on this substance; but it is probable that in some cases the small insects seeking the nectar, and not the nectar itself, may be the object of the visits of these birds to nectar-producing flowers. The bright colors, as shown by Sir John Lubbock's experiments, serve to guide insects to the flowers, and the odor which they emit fulfills the same end. The markings on a flower's petals, it is to be noted, always converge toward the nectar, as in the violet. The importance of these guides to insects will be apparent from the following estimations, which show how indispensable it is that as little time as possible should be lost by an insect collecting honey. It must also be remembered that the nectar is usually contained in the most secure and best covered parts of the flower, the object being to prevent the access of rain, which, owing to the extreme solubility and diffusibility of sugar, would speedily cause it to be transferred to parts of the plants where insects could reach it without being of any service in the way of cross-fertilization. The chief purpose of the flower would in this way be frustrated.

The formation of nectar is observed to take place most freely in hot weather, and to be prevented by cold or wet. So great economy is exercised by the plant that it is only formed at the time when insects' visits would be beneficial, *i. e.:* when the anthers are ripe and shedding their pollen, or when the stigma is matured and ready to receive pollen. By biologists, the visits of bees, butterflies, and other insects are believed to have exercised in past time an important influence in modifying the size, shape, color, etc., of flowers, and the following experiments, in spite of their incompleteness, are of interest, as showing to what an extent this action takes place in nature, and as helping to determine the value of this factor. These estimations are only the first of a series and the writer regrets that he has been unable to give them the desirable completeness, but hopes to continue them.

The nectar was extracted with water, and the sugar determined before and after conversion, by means of Fehling's copper solution. Many of the estimations were done in duplicate, and gave results that agreed perfectly. In the case of fuchsia—which is not deprived of its nectar by any insects in this country, the nectary being inaccessible to native species—we have probably the whole amount formed; but in the other cases, the visits of bees, etc., may have reduced the amount considerably. In this case it is a clear, colorless liquid, having an acid reaction, and an intensely sweet taste. That of many others has the strong characteristic odor of honey:

SUGAR IN FLOWERS.

	Total, M.m.g.	Fruit.	Cane? (as fruit)
1. Fuchsia, per flower.......	7.59	1.69	5.9
2. *Claytonia alsinoides*, do,	0.413	0.175	0.238
3. Everlasting Pea, do......	9.93	8.33	1.60
4. Vetch (*Vicia cracca*) per raceme..................	3.16	3.15	0.01
5. Ditto, per single flower...	0.158	0.158	...
6. Red clover, per head.....	7.93	5 95	1.98
7. Red clover, per floret.....	0.132	0.099	0.033
8. Monkshead, per flower...	6.41	4.63	1.78

Approximately, then, 100 heads of clover yield 0.8 grm. of sugar, or 125 give 1 grm., or 125,000 1 kilo. of sugar; and as each head contains about 60 florets (125,000x60), that is 7,500,000 distinct flower tubes must be sucked, in order to obtain 1 kilo. sugar. Now as honey, roughly, may be said to contain 75 per cent. sugar, we have 1 kilogrm., equivalent to 5,600,000 flowers in round numbers, or, say, two and a half millions of visits for 1 pound of honey. This shows what an amazing amount of labor the bees must perform, for their industry would thus appear to be indispensable to their very existence. Another point worth notice in these results is the occurrence of what appears to be cane-sugar, and that in the case of fuchsia in the proportion of nearly three-fourths of the whole. This is remarkable, as honey is usually supposed to contain no cane-sugar, its presence being generally regarded as certain evidence of adulteration. The question therefore arises, whether this change, which takes place while the sugar is in the possession of the bee, is due to the action of juices with which it comes in contact while in the honey-bag or expanded œsophagus of the insect, or whether the process of inversion goes on spontaneously, as may perhaps be the case.

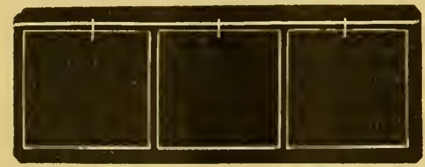
For the American Bee Journal.

An Improvement in Hives.

DR. J. W. WILLIAMS.

I will describe what bee men in this section consider an improvement on the Langstroth hive. The size of frame and hive is exactly that of the New Langstroth, but instead of a movable side, the side and back end are doors, hung with hinges giving easy access to frames. The frames are retained in place by means of wire staples; wire cut 2¼ inches long and bent at right angles, being driven into the front board at proper distances, so that one end of the staple projects into the hive for the frame; I drive a small carpet staple over the wire staple to hold it firm to place, a hole is punched in the top bar with an awl $\frac{3}{8}$ inch from the end. The frame rests on the bottom board, by means of a nail in the bottom of the frame at each end, and driven so as to keep the frame raised $\frac{3}{8}$ inch from the bottom board. Guide nails are driven on the side and at each end at the bottom, to keep them proper distances apart. By opening the doors, the frames will swing in place, to enable any one to see the condition of the colony without removing them from the hive. If I wish to remove a frame, I raise the back end of it and all is free. The cap is rabbetted on the bottom $\frac{1}{2}$ inch, and rests on the outer edge of the hive, $6\frac{3}{4}$ inches deep, with lid hung with butts to the surplus box; a piece $1\frac{1}{2}$ inches square is put on the under side with 2 inch screws to prevent warping. The front and back piece of the surplus box are rabbetted $\frac{7}{8}$ inch deep, $\frac{3}{8}$ inch in, with a strip of tin $\frac{5}{8}$ inch wide tacked on the edge of the rabbet, after Prof. Cook's plan, for section piece to hang on, which is $1\frac{1}{2}$ inches wide and $\frac{3}{8}$ thick, and long enough to reach from front to rear of cap and rest on tin. The edge, made from plastering lath.

The section boxes $5\frac{1}{4}$x$6\frac{1}{4}$x2 are hung to the top piece by number 6, $\frac{5}{8}$ inch screws one to each section (see cut).



The cap thus arranged will hold 21 sections and all hang free from the cap, leaving $\frac{1}{4}$ inch space for bees to pass. My separators are made of tin and hang on the tin edgewise in cap cut in such a manner as to give a $\frac{1}{2}$ inch space above and below for bees to pass. If you wish to remove a section raise it and with a screw driver, turn the screw a little and the section is free; put on an empty one and return.

The advantage in this arrangement is you have nothing glued with propolis, as you would with sections in a frame and resting on the top of the hive. When you remove the cap for observation in the lower chamber, you remove surplus sections with it, with a great deal less trouble. Is easier made and less expensive.

I have 19 colonies on their summer stands, wrapped with flax straw and corn fodder over them. The winter has been quite severe with abundance of snow ever since December 20th.

Chesterville, O.

For the American Bee Journal.

New Method of Hiving Bees.

MOOSH AMIEL.

Many of our experiments are the result of accident leading to a thought, and the thought to valuable inventions, discoveries, &c. Last season a swarm commenced to issue, I saw them at their commencement, sprinkled water on them freely, in hopes to check them, but could not; they were not so wet but that they crawled, and gathered under the front end of the bottom board. I brushed them off into an empty hive, gave them a sheet of brood and honey; they remained all right. Now that was a cheap way, no cutting of choice fruit trees, &c.

Now for the resulting thought: Why not catch swarms as they issue (we see ours often as they commence to issue), in a hiver? Make it of a very light box, say 14 or 15 inches square, wire cloth or cheese cloth on one side to give light, plenty of narrow strips of old comb, well fastened to the top with wax and rosin; make an opening or slot on one side, near the bottom, for them to enter, as they issue from the old hive. Hang the bottom with hinges, small hooks and staples opposite hinges by which to open the hiver, shake swarm on to the frames in new hive and instantly throw table cloth over them, as swarms often leave before going down among the frames. I cannot see why this machine will not work, if the slot or opening is held to the mouth of the old hive in time to catch the queen, and if we do not get her we are no worse off than if we had not made the attempt; but very often we shall catch her, and if we do not, and they alight in a tree or on a current bush, we would use the basket as constructed by that old bee-keeper, Mr. Joseph Butler, of Jackson, Mich., who says he could not well hive his bees without. They go of themselves into his basket, if properly constructed and held up to the limb or bush where they are lighting, and can be carried a mile in it to the new hive, without being confined. Put the basket and bees on the frames, putting a table cloth over them; give the basket a shake or two, wait two minutes and then remove them.

For the American Bee Journal.

The Raspberry as a Honey Plant.

THOMAS J. WARD.

I commenced the season last spring with 9 colonies of bees, increased to 18, partly by artificial and partly by natural swarming. Last season was a very poor one here for bees. Fruit blossoms yielded but very little honey, except the raspberry, which I find by 10 years' experience, to be the best honey producing plant here, in its season, which is from about 20th of May till about the last of June.

The raspberry is also very profitable to cultivate for its excellent and delicious fruit. There is always a ready market for the berries, at from 40 cents to $1.00 per gallon for black caps and from 75 cents to $1.25 per gallon wholesale for the red varieties. The Mammoth Cluster (black cap) and Twiner (red) are the most profitable varieties to cultivate. They are very hardy, never winter kill, and prodigious bearers.

They will, under proper care, yield 400 gallons per acre. I have a large plantation of them now, and will plant 2 acres more of them this spring. The honey gathered from raspberries is equal to linden or white clover.

Bees refuse to work on anything else as long as raspberries remain in bloom. There are a great many linden or basswood trees in this locality, but they yielded no bloom nor honey last year, which very seldom occurs here. There are also a large number of tulip trees which never fail to bloom and furnish large quantities of pollen, and a very good quality of honey. We had a very fair share of white clover bloom last season, which produced very well while it lasted, but after that was over, I may say the "jig" was up for gathering surplus honey. Buckwheat and fall flowers did not seem to yield much honey, but afforded plenty of stores for the bees to winter on, but no surplus.

I put into winter quarters 13 strong colonies and 3 weak ones, (I sold 2 colonies in the fall). Two of the weak colonies went to the happy hunting grounds. The other weak colony promises to come out all right in the spring. All of the strong colonies are in excellent condition at this writing. I am wintering on summer stands. I could not be persuaded again to winter any where else. I have tried in-door wintering to my satisfaction or rather disatisfaction, always with the worst of success. I always lost over half and sometimes nearly every colony by in-door wintering. I have never yet lost a strong colony by wintering on summer stands.

It has been 25° below zero here this winter, and have had 7 weeks of intense cold weather at one stretch.

My bees are mostly hybrids, have some Italians. I got 275 lbs. of comb honey in 2 and 4 lb. boxes and about 50 lbs. extracted honey, last season. I am using the American, Langstroth, Farmer's Friend, Nos. 1 and 2, and Elvin Armstrong's Centennial hives. I regard the American hive as a moth breeder. For nice comb honey, Armstrong's Centennial hive is the "boss." The Farmer's Friend No. 2, is next in favor with me. I have no pecuniary interest in any hive.

St. Mary's, Ind., Feb. 18, 1879.

For the American Bee Journal.

From November to May.

G. M. DOOLITTLE.

As I am to commence a series of articles telling you how we (that means my wife and myself, as my wife helps much about the bee business) conduct our apiary during a year, we shall have to commence with the month of November, as that is, or should be, the commencement of the season with every practical apiarist.

Then we will suppose that you have your honey all disposed of, and your bees all prepared for winter on October 31st, and are ready to go to work for the next season. Our first work is to get our cases and boxes which have been in use the past season, in readiness for the next harvest. Get them around, and scrape off all the propolis adhering to the tin separators, and all the bits of comb that are fastened to the bottoms of the cases. All these bits of comb should be saved, and to best save them you should have your wax extractor close at hand, and all waste pieces of comb put into it during the whole season. As often as it is full, get out the wax and have it ready to fill again. All boxes that are partly filled with honey should have the honey extracted from them (unless you think you will need it to feed in the spring), as the honey will not correspond in color with that which the bees will put in to finish out the boxes the next season. To extract this nicely, we fix a shelf close to the ceiling of our room, put the honey thereon, and keep the room so warm the mercury will stand at 90 to 100° for three or four hours before we extract. By placing the honey near the ceiling, we do not require near the fire to heat it that we would require if placed on the floor or a bench. These part-filled boxes, if extracted without warming, would all be ruined, and the apiarist's prospect of a large yield of honey the coming season would be ruined also, for these combs are better to him than money in the bank. After the honey is extracted, these boxes are to be put in the center case for each hive, that is, if you use a three-box case, you are to use three of these boxes of comb to each hive; if a two-box case, two of them, and that case is to be placed as the center case on top of the hive, so as to secure an early commencement of work by the bees in the boxes, and so the full boxes shall not all come off at once, as I have explained elsewhere. Fill the rest of the cases with empty boxes, each having a starter of nice white comb, of a triangular shape (1½ inches on each of the three sides), attached to the top. To put in this starter, get a flat piece of iron and heat it; hold the starter close to the top of the box (now turned bottom side up), draw the iron under the starter and immediately place it (the starter) in the right position, and it becomes a fixture. How to get this white comb for starters I will try and tell you further on. Supposing your cases are filled as directed, you are to pack them snugly away so that they will be ready for use at a moment's notice next June.

Our next work is to get out our material for boxes and make them. To arrive at the number we wish, we allow 80 prize boxes to each old colony in the spring, and find the estimation not far out of the way after several years' experience. To get at the number of feet of lumber required to make them, if an ordinarily fine saw is used, allow 40 feet for the 6¼x2x⅛, and 60 for the 5x1¾x⅜ for each 1,000 boxes. As soon as you have them made, furnish them with starters and pack them nicely away.

Next, we make what hives, cases and frames we think we shall use the next season. Fill the cases as before directed, put your comb-guide on the frames, and pack all nicely away. For nails, we use for boxes ⅝ or ¾ cigar-box tacks, and for frames 1¼ western finishing nails, which have quite a large head. For the rest of the hive we use common nails of suitable length, found at any hardware store. The western finishing nails are manufactured at Salem, Ohio, I believe, and are a splendid nail for frame making. They can be obtained in any of our large cities, from a wholesale hardware merchant. If we have further time, we get out our prize shipping crates, or as many as we think we shall need, always remembering while getting out material and making supplies for the apiary, that if we have a few too many there is no harm done; but if we lack during a large yield of honey, the inconvenience is great, and often results in loss. For the prize crate, to hold the prize boxes such as I have described, get out two pieces 17 5-16x8 1-16 x¼ for top and bottom, two pieces 8 1-16x 6 5-16x¾ for ends, which are to have a slot cut in each one with a wabbling saw for handles, as shown in the cut on the front cover of this JOURNAL; 4 pieces 17 5-16x1¼x3-16 for the side strips. Nail top and bottom to ends, and side strips to ends and top and bottom. We prefer a crate made in this way to having the top and bottom wide enough to go over the side strips.

To sum up, in short, the work from November to May, I will say get everything ready you wish to use during the busy season, and have it snugly packed away so you can put your hand on it at a moment's notice. See your bees often, and if they are in the cellar, keep the temperature from 40 to 45° if possible, and do not let the dead bees accumulate on the floor to get mashed and moldy there. If the mercury rises to 45 or 50° in the shade, with the sun shining nicely, let your bees that are out-doors have a fly, no matter if the ground is covered with snow. Do not let any starve or suffer for lack of attention on your part. In fact, as I have often said, do things at the right time and in a proper manner, leaving nothing undone that will contribute to your success.

Do not forget to post yourself up in bee literature, and secure subscribers for our BEE JOURNAL, for the publishers cannot live and give us the splendid JOURNAL they do, without our aid in securing subscribers.

Before closing, I wish to say a few words to beginners, and perhaps they may apply to some who have kept bees several years. Don't pay out more than $40 to $50 to get a start, including bees, hives, periodicals, books, and everything. If you do not buy more than from two to four colonies (and you should not buy more), this will cover all necessary expense. Make your own wares, except a sample perhaps to work from, and thus save money and become self-supporting. Do not get crazy over the puffs of wares by those having said wares for sale, and pay out your hard-earned dollars (earned in some other business), more than just to get a start. Make your bees and yourself self-sustaining, and after the first start do not pay out for anything more than what the bees bring you in, always remembering that if you cannot make 4 colonies pay, you cannot 400. If you should happen to make a failure of the business, you will have the consolation of knowing that you have lost but from $40 to $50, instead of from $300 to $400, or perhaps as many thousands, as some do. Also remember, if you wish to succeed, you must look after your bees. If any person expects to realize a large income from his bees, and never look after their condition (simply hive them and put on boxes), he will find himself greatly mistaken. How many who read this know the exact condition of their bees at all times? If you do not, my friend, you are not caring for them as well as you would for your cow or horse; neither can you expect any more profit from them than you could from a cow or horse if you never looked after it. Bee-keeping only pays when our pets are properly cared for, and if any one cannot spend the amount of time on them they require, he had better keep out of the business, for, sooner or later, he will turn away from it in disgust.

Borodino, N. Y., March 2, 1879.

[On page 113, of the March number, 2d column, 16th line from bottom, for ⅛ inch read "½ inch." This was an oversight.—Ed.]

For the American Bee Journal.

Experience with Comb Foundation.

OSCAR COURTNEY.

Having upward of 30 lbs. of nice pure wax one year ago, I got it made into a fine article of comb foundation. When the season for surplus honey commenced I used some of the drone comb foundation in my sections, sparingly at first, but soon learned that the bees accepted it as readily as they did the natural comb starters, and that I obtained more perfect combs by the use of foundation than I did with natural comb, and that it was thinned down to such an extent, that the "bone" was very small if at all perceptiable. My honey sold as well in New York, as I could expect, without being glassed upon either side.

I used comb foundation in the brood chamber with equally good results, and to my entire satisfaction. I can show some very fine specimens where foundation was used. If there was any sagging it is not perceptible to me, and there is no waste, or unoccupied space at the under side of top bar, the cells being perfect enough to raise young bees in. I use the Langstroth frame and my method of fastening foundation in the frame is as follows: Use the flat top bar and slit it open from one end to the rabbet at the other with a thin saw, then I put together my frames as in using the V guide, except to leave one-half of top bar as the end that is slit clear out without nailing; then I have a board one-half the thickness of top bar, nearly the size of inside of frame, and lay it upon a table, put my frame over with the loose side of top bar up, take a sheet of foundation a little shorter and about one inch narrower than frame is deep, place it upon the thin board, raise the unnailed half of top bar up and slide the foundation into the jaws of frames, just enough to have a row of cells commence under the edge of the top bar, let it back and nail through with brads, then nail the half of top bar that was left loose to end of frame, and my work is done, taking but a short time after being once prepared. It makes a perfect fastening, without the loss of a single row of cells upon either side of top bar.

Marathon, N. Y.

For the American Bee Journal.

Improvement in Bees.

JOHN F. EGGLESTON.

Can our bees be improved? If not, why not? If they can, what is the most practical way of doing it? Prof. Cook touched the right chord when he gave a warning against the wholesale use for breeding with untested "dollar queens." In my opinion this is one of the most vital points to be considered. In locations where the barbarous practice of killing the bees to get their honey has been abandoned, many colonies every year survive the winter so reduced in numbers and stores, that they have to be coaxed and petted all the summer, and not unfrequently helped from other colonies that would themselves be profitable, but for the charities bestowed upon their worthless neighbors, in order to get them through to begin the next season where they began the year before. The queens would finally be removed or superseded by the bees; if by the latter, the young queen may be superior to her mother, but would any sensible man believe the chances were as good for the production of a valuable queen, as though she had been bred from the best queen at the command of the apiarist, and fertilized by a drone bred from a choice colony. If it were not for the interference of man to save that "dollar queen," nature would have corrected the error, by preserving such only as were able to provide for themselves. The trouble does not stop here, for our valuable queens are as liable to mate with drones from such do-nothing colonies as others, just in proportion to the per cent. of such drones in the apiary, and the chances may even be in greater proportion should there be many beginners of the new school in the immediate vicinity.

After closely observing and experimenting in this line for 8 years, I am so positive with regard to the results, that I would not exchange my present stock for twice the amount picked up promiscuously through the country, strength of colonies, same style of hives, and all other conditions being equal, unless I had reserve queens to introduce at once. I have no axe to grind, for I have not a queen for sale at any price; if I had, they would not suit some of my bee-keeping friends, for they have not all the golden uniformity.

To begin the improvement of any kind of stock, we must take pains in selecting the parents, and breed from such only as show the qualities aimed at in a marked degree. If I was to point out a line to pursue for improvement, I would breed queens from such colonies as show the most desirable points, such as honey gathering, ability to stand the winter well and not dwindling away in the spring, mild disposition, and lastly, color, if it can be obtained with the other desirable qualities; if not, sacrifice it for something of more importance to the honey producer. Not that I prefer dark color, for I too, like handsome bees, but men that depend upon their bees for support for themselves and families, must have more substantial qualities than fine feathers. After the queen cells were sealed in full colonies, being started from the egg (no others admitted), I would transfer them to the nucleus that had been unqueened, and remove to the drone apiary, which should be 5 or 6 miles from other bees. I would keep no drones there but the *choicest* that could be procured, and many of them. I would be particular in selecting drones, to take them from colonies that had distinguished themselves in the qualities sought as well as for their individual size and beauty. For breeding on a small scale the apiarist could have recourse to the Kohler or other known methods that give him partial control over the mating of the queens, but I would much prefer the distant apiary.

Scientific breeders of domestic animals of all civilized countries recognize the necessity of selecting strong, well developed, and perfect sires, knowing they are much more certain to stamp their own individuality upon their offspring than sires of less stamina and constitutional vigor. If we reason from analogy, the necessities for selecting drones as well as queens are obvious, in order to arrive at the greatest perfection in "breeding up."

The more natural tact and indomitable perseverance brought to bear upon this subject, together with that keen observation and necesssary enthusiasm which ever attends the skillful breeder, the greater will be the measure of success.

As yet we have been unable to completely control the mating of queens, therefore we have not made as rapid strides in improvement as might be desirable, but,we still hope that Yankee genius will solve the problem and show us the way.

Garland, Pa.

For the American Bee Journal.

Bee-keeping as a Specialty.

T. F. BINGHAM.

Successful bee-keeping does not depend on a large apiary run on the highest style of the art. The success attained in agriculture, manufactures and the ordinary pursuits of life are not all brilliant and startling. It is true that we read of farms of immense proportions, factories which are the main interest of a city, and merchants, whose reputation for business is world-wide. We have a few great lawyers, a few great doctors, and a few great thieves. These men challenge our attention by the scope and brilliancy of their genius. But it must be borne in mind that of these there are but few. The great tide of human attainment runs deep and still.

Special bee-keeping like special farming, in a few isolated cases, has been a marked success. But any careful observer will not fail to realize that we are more sure of a steady and ample supply of bread, meat and potatoes, when the raising of these commodities are distributed over a large extent of territory and a large number of small producers. Special stock raising is only possible mid broad pastures and nutritious grasses. So with special bee-keeping, the pasture must be of the first order, wide and good. Bees are like hens which from causes not generally understood, only do best when but few are kept. Special efforts have been made to augment the number and improve the breed of fowls so as to raise eggs as a specialty. Such efforts have been only failures. If the world depended on special egg-raisers for its egg-nog, ice-cream and ham and eggs, it would soon be reduced to whiskey, butter-milk and starvation. Few are adapted to any pursuit in its widest sense, however lofty their aspirations. The many must move on with the means at their command and while they cannot raise honey by the ship load in penny packages, they must be content with raising by the ton or hundred in such packages as will sell. No fact is better established than that five or six colonies of bees and their increase, will gather a much greater average amount of honey in average seasons than if kept in larger numbers. It is not to be presumed that honey is to be all of one price, any more than cigars and tobacco. Honey will differ in quality and flavor, as well as in style of package. Some will prefer one kind of flavor or package, while others would prefer another and very different article in a very different form. The supply of honey has reached such proportions that diversity of taste as well as style may in the near future become a leading feature.

While it is desirable to elevate taste as much as possible, all may not be able to compete in its supply. Such must fall back on ready-made appetities, faulty in gastronomic construction perhaps, but strong, wide and deep.

Abronia, Mich.

For the American Bee Journal.

Why Honey is Slow Sale in Market.

EDWIN PIKE.

Adulteration of all sweets is so well known that further proof and argument are unnecessary. Bee-keepers have other vexations to encounter, which turn up in various ways, and materially affect the sale of pure honey.

The scarcity of money is a serious drawback in selling honey in western home markets even such a small crop as was obtained during the season of 1878. People naturally buy that which is cheapest, getting the most for the money invested. Quality is not so much of a consideration with a majority of customers, and a good article not as well apreciated. Grocers not only do a little injustice to bee-keepers in selling on commission, but are sometimes slow to sell for their own interests.

Farmers and others who know but little how to obtain good honey, will often bring small lots of honey in such shape and offer it for just what they can get. Perhaps the grocer buys it for half price in trade. Being satisfied with his profits on goods, perhaps he will sell it out the same as paid, and thus a uniform price of honey is harder to maintain. Again, perhaps some one comes along, who has been pretty well puffed up by some 2d or 3d rate bee publication, with some extracted honey from combs within the hive, promiscuously strewed with the honey knife through honey, bee bread and all, and offers it a little less than the price, purchasers thinking they are getting a bargain, buy some. Such honey lasts them a long time, and they will not care to purchase even good honey at a trifle higher figure.

I believe a correspondent in the AMERICAN BEE JOURNAL for Feb., says that dealers and consumers demand glucose in their honey. Dealers may think it quite a fancy thing to raise the price of glucose by its mixture with honey. This would be a financial view of the case. As for consumers demanding a mixture of that article is something I have not heard of before. If a consumer thinks glucose improves good honey, why don't they buy the article instead of honey? It could be bought at a much less price than honey, and if the taste suited, it would be quite a financial success for the consumer.

A refiner says that glucose is an article of commerce, but does not say for what purpose it is used, except for mixing with other sweets. If there are other purposes for which it is used, I think the board of trade will have to see that no such mixtures are shipped to Europe. If they do, our exporters will be rubbing their hands for the next 10 years to find anything more there to do, in such a line of business. The export of good honey to foreign countries would receive a severe blow.

It was stated in the *Scientific American* for February, that some bee-keepers are feeding their bees immense quantities of glucose, and shipping to eastern markets. Perhaps this explains why we read of such immense yields. This being another mode of adulteration, our markets for comb honey will be seriously affected.

One publisher of a bee paper advocates feeding grape sugar to bees, and now see its result. Honest production is baffled and it occurs to us that Congress should compel dealers to label their mixtures just what they are, and compel producers to label their honey, comb or extracted, just what it is, under severe penalties.

Consumers have a moral right to know what they are buying for themselves and their wives and children to eat. I believe they not only have a moral right, but a legal right to know exactly what they buy. As regards the use of poisonous substances in the process of manufacture or otherwise of all sweets or articles of diet, a severe penalty for using such should be inflicted by law. No one can say but that this is a progressive age, but the sooner we institute *morals*, the faster we will progress.

Boscobel, Wis.

[We do not believe that there has been any very large amount of comb honey, as yet, adulterated by feeding the bees glucose. But there is danger, and hence all honest men should at once and forever discountenance its use in or about the apiary. Our honey must be above suspicion, and we cannot be too scrupulous about maintaining its exalted character for purity and deliciousness. Once give cause for suspicion, and the innocent must suffer alike with the guilty.—Ed.]

For the American Bee Journal.

How Bees Mark their Location.

L. JAMES.

On page 416 of the December number of the Bee Journal, Mr. Waterhouse asks, "How do bees mark their location so accurately?" Although a reader of the Journal from its first issue to the present, I have no recollection of seeing this question asked before in its pages. Although I have neither time, nor inclination to write for the Journal, still, I have received so much information from various articles contained in it, that I feel myself rather under obligations to give Mr. Waterhouse and others my views as to the way in which bees mark their location so well.

As early as the year 1857, while handling some bees an incident came under my notice that led me to believe that they are gifted with a faculty of knowing the exact direction to fly, to reach the hives. A faculty of location, if I may so term it, that we in our own persons are strangers to. Since that time my attention has been directed to the subject and I am satisfied of its correctness. When we come to carefully think upon the subject, it appears as an absolute necessity for these wonderful little creatures to be endowed with, for being urged on by an intense passion for the accumulation of honey beyond all possibility of need we find them flying here and there in all directions, crossing and re-crossing their line of flight, rambling for miles it may be in its course, before it has a satisfactory load, then it rises and thinking of home, and making one or more circles in the air it " strikes a bee line " and that course followed leads to the hive for sure. Though a bee may be roughly knocked round in all directions and sent spinning like a top to a great distance, yet if sufficient strength remains to fly it will be found on its rising to go through the same preparatory movements and then start straight for home. It may be carried many miles from home and then released, yet the little creature finds no trouble in striking the bee line that points towards the hive. We see this faculty exhibited by various creatures, strikingly so in migratory birds.

That they are possessed with sight and hearing I presume few will doubt, yet I do not think they depend much on seeing, even when they are quite near the hive. We may satisfy ourselves of this fact by noticing the crowd of bees returning to the hive in a busy time. Every once and a while, one will alight within a very short distance of the entrance and seems not to be certain that it is right, while a constant string of others that have alighted much further away are rushing past, yet instead of entering with the others, it will take to its wings and rise up and go through its accustomed circular flight and then make for the hive. I have seen a bee go through this same course a number of times before entering. I have no doubt but that almost all have seen the same, if they have paid much attention to the subject.

A great deal has been said about painting the hives various colors so as to enable bees, and particularly the queens, to know their hives. I am satisfied this is an assumption that will not be verified by fair experiments. It is the *place* or *situation* the hive is in, that judges them in this matter. If any one wishes to satisfy himself about it, let him next spring when he wishes to obtain queen cells select the brightest colored hive in his yard and put by the side of it an empty hive of an opposite color, and remove two to four frames of brood and bees, and after having arranged them and closed up the hives, remove the parent hive 12 or 18 inches to either side and place the new one where it stood. If this is done in the middle of the day as it should be, by evening he will find most of the gathering bees in the new hive. Reversing the hives next day will change things again, and by a little proper management he can regulate the division of the working force almost as he wishes.

Atlanta, Ill.

Conventions.

Clark County, O., Convention.

The bee-keepers of Clark county, O., met in Convention at Springfield, O., Jan. 18, 1879, and adopted a constitution, its object being the promotion and encouragement of bee-culture in this and adjoining counties; membership fee, 50 cents per year for gentlemen, ladies free; time of meeting, first Saturday in each month, at 2 p. m., at the Lagonda House, Springfield, O.

The following officers were elected: President, W. H. Berger; Vice President, Dr. A. B. Mason; Secretary and Treasurer, Samuel G. Brown; Executive Committee, W. W. Burnett, A. J. Smith and J. Tritt. A. J. Smith, W. W. Burnett and D. O. Frantz were named a committee to prepare questions for discussion.

At the February meeting there was a good attendance, and every one reported their bees as "wintering well."

Lancaster County (Pa.) Convention.

Met at Lancaster, Feb., 10, 1879. The meeting was called to order by Vice President J. F. Hershey.

REPORTS.

The chairman stated that he wintered some 70 colonies in the house he has prepared for that purpose. So far he has lost very few bees.

I. G. Martin said he had lost very few bees—not half a pint per colony; but as the hardest time is still to come, there is no telling how they shall come out in the end.

S. H. Musselman. None of his colonies have as yet died.

J. Hurst has 5 colonies, has lost none during the winter.

John Huber's colonies are all alive so far, and apparently doing well.

J. H. Mellinger has wintered 8 colonies on their summer stands, and they are all doing well.

Jonas H. Shank has wintered 7 colonies, and they are all doing well on their summer stands.

Elias Hershey began the winter with 26 colonies on summer stands. They are all apparently doing well.

FEEDING GLUCOSE.

Should glucose be fed to bees? None of the members having tried the article, it could not be spoken of with any certainty.

The chairman said it had been fed to bees quite extensively. Some writers advocate it, while others are as strongly against it. The weight of evidence was against it. He advised against its use. It would have a tendency to impair confidence in our honey product. It might be fed before bees begin to store their regular supplies.

I. G. Martin had never tried glucose, but he is not in favor of it. He advised caution in its use. He favored a law against honey adulterations.

J. F. Hershey said glucose contains so much acid that it often proves fatal to colonies.

I. G. Martin remarked if fed at all it should be mixed with sugar.

IS IT ADVISABLE TO BUY DOLLAR QUEENS?

I. G. Martin had bought some of these queens and some proved very good—as good as the high-priced queens. If they can be had of a reliable breeder, they are worth trying.

Elias Hershey agreed with Mr. Martin. He bought 5 last year, and got 2 good ones; the other 3 were impure and worse than those which he displaced with them.

I. G. Martin had 2 pure ones out of 4; the others were rather more than half pure.

J. F. Hershey does not want any dollar queens. He has raised too many himself to believe in them. You run a risk in buying them. They may be alive when you get them or they may not be; they may be pure or otherwise. He don't raise dollar queens, but when he sells guaranteed queens they are raised from his best queen. The queen is the strong point in a colony; if she is pure and good, your colonies will be good.

COMB FOUNDATION.

I. G. Martin said he had used foundation without wires. Pure wax was desirable; that which is impure is not acceptable to the bees; the combs sag, besides. They should be used only about 7 inches deep; first press them against the bar and then tack them fast. There are other ways, but the latter is the best.

J. F. Hershey never used comb foundation but will try it this coming season. He will use the comb containing wire.

WHAT IS THE BEST MODE OF SPRINGING BEES?

J. H. Mellinger's method was to feed them strongly until apple-blossom time, or until flowers come, by which time they would be in good condition and throw good swarms.

I. G. Martin read the following, which gives his method of preparing colonies for their spring and summer work: It is of great importance to have our bees strong in the spring, before the honey harvest. But how shall we get them and the hive filled with brood so early? My plan is, as soon as spring opens and the bees begin to gather pollen, to examine every colony by lifting the frames out, and if it is weak, shut the bees to one side of the hive with a close-fitting division board, on as many combs as they can cover, so as to keep up the heat necessary for brood-rearing.

If the colony is very weak, I take all the combs out but two, and if it is so weak that the bees cannot cover two combs, then I unite it with another colony. As soon as the queen has filled these combs with eggs, I spread them apart and insert an empty comb between those with brood. In two or three days this comb will be filled also with eggs, and so I keep on inserting empty combs as fast as the queen fills them with eggs, and always in the middle of the brood nest till it is full. The queen will be laying in the center of the brood nest all the time, instead of on the outside of the cluster, which she seldom will in the cold weather of spring, but when it is warm and the bees are plenty, then she will lay anywhere in the hive. As soon as the strongest colonies are full, I take a frame of hatching brood out and put it in a weaker one, and then put an empty comb in the stronger one for the queen to fill again, and so I keep on till all are full. Then put on the honey boxes, so that if they gather honey, they must put it in the boxes, the hive below being all taken up with brood. Each box should have a small piece of comb attached to the top for a starter, or, if you have no nice white comb put in a narrow strip of comb-foundation.

J. F. Hershey had some weak colonies last year. He took out nearly all the combs, and began to feed them. They tried to raise too much brood, and the colonies died. Others that were left alone did very well. If they have plenty of honey in the spring, he did not think they should be fed. High winds often injure colonies in early spring. They should be protected.

I. G. Martin generally gives his colonies frames with honey, instead of feeding.

J. F. Hershey said in an experience of 20 years, the queen of his best colony did not begin laying until April; he got 135 pounds of honey from that hive. He does not believe in feeding until after the apple blossoms are over. To do so is to stimulate them in rearing brood. Sugar is the best artificial substance to feed bees with.

MARKETING HONEY.

J. F. Hershey thought the better the honey is put up, the more you can sell. He has sold much, and the nicer, cleaner and whiter honey is, the better it will sell. He will use one-pound boxes hereafter, believing them more salable than those of larger size. The honey sells faster. Have the boxes nice, clean and attractive.

I. G. Martin exhibited boxes intended to hold one and two pounds. Three months ago he had these same boxes on exhibition filled with honey, and they were exceedingly beautiful. He preferred the two pound boxes. In selling extracted honey, two or three pound jars are best to put it in. He had a sample on exhibition, which was a most beautiful specimen of clover honey, and as good as it was beautiful.

J. F. Hershey advised that honey be kept in a warm place; it keeps better and nicer. He has found that pound boxes of honey sell better in the market than two pound boxes. He will use single pound boxes hereafter if experience shows him they will continue in demand. He also proposed to have the association composed of paying members, and that a fair be held next fall by the association, giving premiums to the honey exhibited in the best marketable shape.

Elias Hershey suggested that a committee be appointed to inquire whether we could not hold an exhibition in conjunction with the Agricultural Society.

A motion to that effect was made and carried. Peter S. Reist, Elias Hershey and I. G. Martin were the committee appointed by the chair.

J. H. Mellinger thought questions should be assigned to different members, to be answered at a future meeting. The motion was made and carried. J. F. Hershey, J. H. Mellinger and H. H. Myers were appointed to prepare essays to be read at the next meeting in May.

FEEDING RYE FLOUR.

J. H. Mellinger asked whether it was advisable to feed rye flour.

J. F. Hershey had fed this flour early in the spring, as soon as the bees begin flying. Don't feed too much. If you do, they gather too much pollen. Feed a little each day.

I. G. Martin thought where only a few colonies were kept it was no advantage to feed rye flour. Oats with the rye was better.

Elias Hershey said where there were maple trees it was not necessary to feed rye flour.

I. G. Martin said the willow was also a good tree from which to gather pollen and honey; it came into season immediately after the maple.

On motion, the Society adjourned to meet again on the second Monday in May, 1879, at Lancaster, Pa.

North-Western Ohio Convention.

Met at Wauseon, Jan. 2, 1879. The President, Capt. W. F. Williams, delivered the following address:

Gentlemen of the Convention:—On this cold winter day I greet you. More than forty years ago, when a mere boy, I remember of roaming with the Indian through the almost unbroken forests of this neighborhood in pursuit of the wild deer and the turkey. It was then a land of wild game, and flowed (not much with milk), but plenty of honey. But time has made a change. Instead of the almost unbroken forest, we now have this beautiful town of Wauseon, surrounded by fertile and well-improved farms. Instead of howling wolves we now have the rumbling cars, and the whistle of the steam engine. Instead of looking among the hollow trees and old logs of the forest, or possibly in the log gum or salt barrel around the log cabin, for that most delicious sweet honey, we now have the movable frame hive, with its section boxes, the extractor, comb foundation, and many other improvements in apiculture. To these latter let us direct our attention. That, while our little pets are enjoying their winter slumber, let us prepare for the coming summer labor. The time allotted for our deliberation is short. To utilize time permit me to call your attention to some of the subjects that require your notice, and submit questions for your discussion. At our last convention in the city of Toledo the following resolution was passed, viz: *Resolved*, That the national convention at New York should establish a standard of purity for Italian queens, and that no queens should be sent out by any queen breeder unless previously tested and up to the standard. Our convention at the same time adopted the standard of purity of the Italian. (See AMERICAN BEE JOURNNAL, 1878, page 400), as follows: An Italian queen to be pure should be of a golden or leather color, medium size, large but fine wings, and active. Should be noted for her gentility, industry and prolificness. Her progeny should be distinctly marked by three yellow bands across the body. They should be mild in temper, but quick in defence when suddenly alarmed, and gentle in manipulation of the hive, adhering closely to the comb. The purity of the queen can only be tested by her progeny, especially her queen progeny.* Unfortunately the latter clause, for some unforeseen reason, was omitted in the report published in the American Bee Journal.

The national convention held in the city of New York, in response to the above resolution, so far complied with our desire as to advise beginners "to purchase only tested queens of reliable breeders." We appreciate the recognition of our request so far as it goes, but it is hardly sufficient to prevent the dissemination of impure queens. There being such a diversity of opinion among practical apiarists and queen breeders, we therefore recommend the adoption of the following resolution, viz: *Resolved*, That each queen-breeder desiring the patronage of the bee-keeping public accompany his advertisement with what he considers "a standard of purity," and that he permit nothing to leave his apiary but what fully comes up the advertised standard. If the sentiment of this resolution is carried out fully, the purchaser of queens with the standard of purity before him, (together with the reputation of the breeder), he may have the assurance that he will be fairly dealt with and obtain what is desired. If we wish to improve on color or productiveness by crossing, we have the information, to aid us in our selection, and if "beautiful princesses" are desired, we can unhesitatingly refer you to "friend Alley," and if honey production is the object, we can, with the same assurance, refer to our old friend, Charles Dadant.

The president then read the following essay on queen rearing and the improvement of the honey bee, which, after discussion, was adopted:

Gentlemen of the Convention:—Having been requested by a correspondent of the American Bee Journal and other visitors to give for publication my process of rearing queens and bees, and how to improve them, I submit the following for the consideration and criticism of this Convention. I prefer criticism at home, and if this communication will be of any advantage to apiculture, and tend to the improvement of the honey bee, it is at your disposal.

The production of honey and wax is the object of the apiarist. Hence we should breed to attain this object. To do this we must improve on those characteristics of the honey bee that will lead us to the end desired. The first essential is prolificness, to enable us to obtain a sufficient number of bees at the time they can be made the most useful. The second, that of industry and ability as honey gatherers. Third, gentleness for convenience in handling, and, finally, color of beauty is desired. With the foregoing traits of character in view, I experimented for three years with the native black and the Italian bee. I found the Italian so far superior that I abandoned the blacks entirely. The Italians possess the ability to protect themselves from the ravages of the moth miller, and also to gather honey from the blossoms of the red clover, in which characteristic the blacks are deficient. The last season, with one hundred and fifty colonies of Italians, I have had less trouble with moths than formerly with one colony of blacks. In August last my Italians were storing honey from red clover when the blacks were not gathering enough for daily consumption.

In raising queens, I select a strong, healthy colony, especially strong in young bees, and remove the queen. The next day, or as soon as queen-cells begin to develop, I remove all the combs containing eggs or uncapped larvæ. I then select comb containing eggs only, from my best colony (usually from imported stock), and place it in this queenless colony, prepared as above. I aim to have my young queens hatch out on the fourteenth or fifteenth day. The tenth or twelfth day I divide this colony, and prepare as many more colonies by dividing strong ones as is necessary for the number of queens wanted. The thirteenth or fourteenth day I give to each colony thus prepared a queen cell. I then keep watch of the cells till the queen comes out. If well developed, with good wings, I mark the date of hatching; if faulty, I destroy her and give the colony another cell, or join it with another weak colony. As soon as my queens come out I select my colonies containing drones, with which I desire to mate my young queens. If there is not a good flow of honey, I stimulate by feeding warm honey or sugar syrup to those hives containing drones, also those containing young queens. I usually put a few selected drones in the same hive with virgin queens. When my young queens are three days old I close the entrances of my hives containing selected drones and those containing virgin queens, to prevent egress of drones or queens. I generally do this about 11 o'clock a.m., or before the drones take their daily flight, which usually occurs about 12 to 1 p.m. Watch carefully their return, and when they are all in, let out your virgin queens, giving them a few minutes time to make observations regarding locality, then release your drones; do this daily until all are fertilized. If the weather is favorable and your bees properly stimulated, you will seldom fail in having your queens fertilized by the fifth day. The points gained in the process are: First—By selecting eggs from choice colonies your bees have the full time allotted for the perfect development of the queen bee. Second—By giving stimulating food during their virginity you have the most perfect development in growth. Third—You can select you drones from good blood with the same care that you select the blood of the queen, which is equally or more important. In general, from the female we look for form, gentleness, activity and color; from the male, energy, industry, ability and longevity. In conclusion, I will give the results of a few experiments in 1875, with 1 colony of Italians and 13 colonies of blacks in the same yard, with 15 blacks within about 50 rods south and 8 or 10 more in a radius of ½ mile. I reared 7 Italian queens and by adopting the above process, I had 4 of the 7 purely mated. This was my first effort, and might say, it was a "happen so." At another trial, where the Italians and blacks were about equal in numbers with 7 queens, all were purely mated.

From past experience and observation, I am confident that fully three-fourths of our queens may be mated with selected drones, by a little painstaking.

On recommendation of the committee on the president's address, the resolutions recommended therein were passed unanimously, and the omission in the report of the committee on purity of queens, published in the November number of the AMERICAN BEE JOURNAL was ordered to be corrected.*

On motion, J. M. Williams was appointed a committee to confer with the president and directors of the Fulton county fair association in regard to offering such premiums as they may think proper for the encouragement of bee culture.

The committee on exhibits reported that the honey extractor, as made and improved by Mr. B. O. Everett, of Toledo, with gear of double strength, and the post on which the central shaft revolves being secured by solder and bolt through bottom, thereby giving great strength, together, with handles at the sides for convenience in handling, and lugs at the bottom for securing firmly while extracting, makes it as perfect as any machine can be made. The other exhibits consisted of a case of sections, chaff division board, section boxes, simplicity and quart bee feeders by A. Fahnestock; four bottles containing bees in alcohol, to show progress in improvements, by careful breeding, by President Williams; honey, hives and Cook's new Manual of the Apiary and the new Bee-Keeper's Text-Book, by Mr. B. O. Everett, all of which were approved, and a vote of thanks tendered to the exhibitors.

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On motion, Napoleon was designated as the next place of meeting. On motion, the thanks of the association were tendered the proprietors of the Eagle House. On motion, the Convention adjourned, to meet at Napoleon on the first Thursday in April, 1879.

DANIEL KEPLER, *Sec.*

[*The omission referred to, consisted of four words, "especially her queen progeny," and was purely accidental. We cannot now say positively, but it was probably an oversight in setting up the type. We cheerfully make the correction.—ED.]

Eastern Nebraska Convention.

Met at Omaha, Neb., Feb. 8, 1879, at 2 p. m., in the Board of Trade rooms.

Mr. Corbett was elected Chairman *pro tem.*, and H. Bruning, Secretary.

Mr. Craig moved that the society be called the "Eastern Bee-Keepers' Association of Nebraska." The motion prevailed.

On motion of Mr. Pigman, the Chairman was instructed to appoint a committee on permanent organization. The chair appointed Messrs. Pigman, Poland and Craig as such committee. It was resolved that the committee on organization be instructed to report on Saturday, February 22, at 1 p. m.

The adjourned meeting assembled at the same place on February 22d.

Present—Messrs. Craig, Byers, Pigman, Ehrenphort, Pageler, Bruning, Van Dorn, Corbett, McLain, Poland and Peckham.

The minutes of the last meeting were read and approved.

The committee on constitution and by-laws reported, which report, on motion of Mr. Van Dorn, was accepted, and the committee discharged.

The constitution and by-laws were then read by articles, and adopted with some amendments, after which the constitution was signed by all the gentlemen present.

The following officers were then elected: Hiram Craig, President; J. L. Poland, Vice President; W. G. Pigman, Secretary; H. Bruning, Treasurer.

On motion of Mr. Ehrenphort, it was decided to hold the next meeting of the Association at the Board of Trade rooms in Omaha, March 14th and 15th, 1879.

The President appointed Mr. Corbett a committee to arrange for rooms for the next meeting.

W. G. PIGMAN, *Sec'y.*

Read before the Southern Kentucky Convention.

Natural vs. Artificial Swarming.

BY JAMES ERWIN.

Although much has been said *pro* and *con* upon this subject, yet the rules and principles that govern natural swarming, and which must be kept in view in practicing artificial methods, are very imperfectly understood by the masses of bee-keepers. It is patent to every observing apiarist, that many of the methods of artificial swarming now in vogue among bee-keepers are not the best adapted to advance the interests of bee culture. Therefore, this question becomes one of considerable importance, and well deserves a place upon our list of questions for discussion, for it is only by interchange of opinion and a comparing of experience that bad methods can be rooted out and good ones established.

Of all the theories extant upon this subject, it may be said of the majority of them, they are more plausible than practical. We take the position that natural swarming is the safest and best for bee-keepers in general, and should be recommended to beginners; while the specialist, who by long study and close observation has made himself thoroughly acquainted with the internal economy of the hive and with the principles that control the bees in the most of, if not all of their actions (and to whom no advice is necessary), will decide for himself as to what system to adopt. Yet even the specialist, if he desires honey instead of increase, will find natural swarming, if properly controlled, to yield the best results. If he desires increase instead of honey, he will find a judicious system of artificial swarming to be the most satisfactory. We will now consider some of the advantages of natural swarming, compared with artificial methods.

In the first place, as a rule, bees swarm at the proper time, which in our locality is generally a few days before or in the beginning of the great flow of honey in the spring. It is very seldom that a swarm is cast on the close of a honey harvest, while in dividing, swarms are often made at very improper times ; for instance, the spring harvest this year was cut short a month earlier than usual by cold and rain ; colonies that were preparing to swarm, destroyed their queen cells and killed off their drones in the latter part of May, seeming to have a fore knowledge of the long honey-drought that was to follow. Now, swarms made at this time (which in ordinary seasons would have done well) in the hands of careless or ignorant bee-keepers would have certainly perished. We made a few artificial swarms at this season, and it was only by heavy feeding that we were enabled to bring them through the summer to the fall harvest in good shape.

In the second place, natural swarms work with an energy and vigor unknown in artificial swarms (this, however, is owing to existing conditions and not to any difference in the disposition of the bees). We have found by observation that bees always do the very best thing that could be done under the circumstances, and it is only our ignorance of the surrounding conditions and circumstances under which they labor that disqualifies us for managing their concerns for them.

Let us now take a view of natural swarming, and see what admirable harmony prevails in the government of the hive, and how wonderfully the means are adapted to the end in view. We find that when the proper season has arrived, and the hive is crowded with bees and brood, weather fine, honey coming in plentifully, a large number of drones having been reared and queen cells started. In short, everything being in the very best possible condition for starting a new colony, that the old queen with a large majority of the working force of the colony rush forth from the hive, and after clustering in some convenient place, send forth scouts in search of a new home, these bees are fat and full of honey and are already secreting the wax with which to build the combs in their new hive. This is why a natural swarm will build comb faster for the first day or two than an artificial swarm of the same size. We find that the drones with commendable prudence and foresight (being naturally of a luxurious and indolent disposition and not disposed to labor for a living) refuse to follow the wanderers to their new home, where honey is scarce and work is plenty, but return to the old hive where they are needed to generate the heat necessary to hatch the brood. Now that the hive has been denuded of most of its population, a large body of drones at this time is very useful and where natural swarming is allowed a moderate proportion of drones is never detrimental to the prosperity of the colony, as the heat generated by them enables more workers to take the field, and as soon as they are no longer needed they are mercilessly destroyed by the workers. One objection urged against natural swarming is the time lost in egg laying, from the time the old queen leaves with the swarm till the young queen becomes fertilized, but as the young queens begin to hatch on the seventh or eighth day after the old queen leaves, the time gained by artificial methods cannot be more than six days where queen cells are furnished the new swarms, nor more than two weeks where laying queens are furnished. But remember these laying queens cost something, and again the superiority of these queens reared by natural process will more than compensate for the loss in time, and as this loss in time is just at the very best of the honey season, when it is well known that bees will gather honey faster while rearing a queen than if they had a laying queen, because they have no young brood to feed and more workers are sent to the field. We think, therefore, that where honey is the principal object in view this objection is groundless.

Another objection to natural swarming, is the danger of losing swarms by their going to the woods, but if the wings of all the queens are clipped as soon as they begin to lay, this objection, as well as several others is obviated. Where it is desired to prevent increase and secure the greatest yield of honey we would advise the following plan: Keep one wing of every queen clipped ; have the hives sitting on the ground with the alighting board resting on the ground in front, keep all weeds and grass cleared away from the hive, then when a swarm issues, go to the hive it came from and cage the queen which will be found on the ground in front of the hive, remove the old hive two feet from the old stand, throw a cloth over it and place your new hive in its stead, then when the swarm returns and begins to rush into the new hive uncage the queen and let her enter with the swarm and your bees have hived themselves.

If you think there is danger of the old colony casting a second swarm, you may open it in four days and cut out all queen cells but one, or if it is choice stock, you may take out a couple of combs of capped brood (containing a queen cell) with the adhereing bees and form a nucleus colony, in order to have reserved queens when needed. This will prevent after swarms from issuing. As soon as the young queen in the removed colony begins to lay, open the new hive and remove the old queen, fumigate both colonies, then place a top story on the new swarm (which by this time will have its brood-story filled) and lift the combs out of the old hive, queen, bees and all, and hang them in the top story on the new swarm (placing it half way between the two) and add a third story to accommodate the united colonies, and if necessary a fourth. Thus you get a doubly strong colony right at the heighth of the honey harvest, also a young queen without any loss of time through queenlessness as the old queen will have filled the new hive with brood by the time the young queen gets to laying. If you shade them, give plenty of ventilation, and keep the honey extracted, they will not be inclined to swarm any more that season. By practicing this method you keep down the increase and renew your queens every year, which is a very great advantage as these young queens will lay prodigiously the first season from being placed in an extra strong colony. As it is well known that a queen placed in a very strong colony will lay a great many more eggs than the same queen placed in a weak colony; brood rearing being always carried on just in proportion to the strength of the colony. The old queens removed being only one year old and tested will (if pure Italians) always find a ready market. If the apiarist desires both honey and increase, he may follow this plan, omitting the uniting process. If he desires to increase his number of colonies rapidly, he may find it best to practice some of the methods of artificial swarming recommended in the various books on bee culture. But he should always remember that increase of colonies is at the expense of the honey crop, and as bees only breed rapidly while honey is coming in, it will be necessary when running for increase, to feed whenever the bees are not gathering.

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Southern Michigan Convention.

The bee-keepers' of Battle Creek and vicinity, met on the 6th inst, and organized an association called the "Southern Michigan Bee-keepers' Association." A Constitution and By-Laws were adopted. The following officers were elected: A. J. Robinson, President; Geo. M. Evarts, Vice President; B. Salisbury, Secretary; L. Hume, Treasurer.

All persons interested in bee culture are invited to join this association.

B. SALISBURY, *Sec.*

◆

Sanilac Co. (Mich.) Convention.

The Sanilac county Bee-keepers' Convention met pursuant to call. Mr. George Smith, of Amadori, was called to the chair, and Mr. James Anderson, of Washington, was elected Secretary. A treatise on modern and ancient apiculture by the chairman. The cause of some honey remaning in a liquid state while other honey granulates was discussed by James Madison, of Sanilac. A jar of honey produced in 1871 was presented by the chairman which was partly liquid. After a thorough discussion of the merits and cause of the above, the following resolutions were passed unanimously:

Resolved, That poor honey gathered late in the fall, is the prime cause of our late bee disasters in wintering.

Resolved, That all impure honey gathered late in autumn be removed and pure honey in frames be substituted.

Resolved, That we advise the apiarists of Sanilac county to secure their honey crop in the "prize box," and to ship in the "prize crate."

Resolved, That we recommend that honey be fed to stimulate early brood rearing; that our apiaries may be in the best possible condition to gather a full supply of honey from the early spring flowers, and thus enable us to exchange for that gathered later in the season.

Resolved, That our warmest thanks are due, and are hereby tendered to the AMERICAN BEE JOURNAL, and to Mr. Ch. Dadant for the bold and fearless exposures of the adulterations of our "sweet of sweets."

The officers elected after effecting a permenent organization were as follows: President, George Smith, of Amadori; Vice President, James Madison, of Sanilac; Secretary, James Anderson, of Washington.

After some desultory conversation the meeting adjourned.

JAMES ANDERSON, *Sec.*

◆

N. W. Ill. & S. W. Wis. Convention.

The North-western Illinois and Southwestern Wisconsin Bee-keepers' Association held their annual meeting at Shirland, Ill., on Dec. 17, 1878. After adopting their new constitution and by-laws, proceeded to elect their officers for the ensuing year as follows: H. W. Lee, President; Mrs. W. W. Kinney, Vice President; Levi Keister, Treasurer; Jonathan Stewart, Secretary. Owing to the inclemency of the weather the attendance was small, but the different localities of the district were pretty well represented.

Mr. T. G. Newman, editor of the AMERICAN BEE JOURNAL, gave a splendid address on the interesting subject of preparing and shipping our surplus honey to market; he also touched upon many other subjects which would only interest the persons who toil to procure one of the most delicious of sweets.

The next meeting will be held at H. W. Lee's, 2 miles north of Pecatonica, on the first Tuesday in May, 1879.

The Association voted thanks to the friends at and around Shirland for their kindness and splendid entertainment of the members of the Association.

JONATHAN STEWART, *Sec.*
Rock Run, Stephenson Co., Ill.

◆

Addison Co. (Vt) Association.

The annual meeting of this Association was held in Middlebury, Jan. 30th and 31st. The President, J. E. Crane, called the meeting to order, which then proceeded to the election of officers for the ensuing year as follows: J. E. Crane, President; A. E. Manum, J. D. Clark, W. Newton, Vice Presidents; Dr. F. Bond, Secretary; A. C. Hooker, Treasurer.

A committee, consisting of Dr. F. Bond, E. P. Wolcott, A. E. Manum, H. L. Leonard and T. Brookins, was chosen to make arrangements.

The name of this association was changed to the "Champlain Valley Bee Keepers' Association."

Mr. Manum made some valuable statements of his experience in bee-keeping, and Mr. Crane followed him on the same subject.

Mr. Crane recommended the use of the Langstroth hive and Mr. Manum recommended his hive; samples of both were on exhibition.

The committee on exercises made the following report:

ESSAYS—Afternoon.—The condition and prospects of the honey interest, by Dr. F.

Bond; report as a delegate to National Convention, by A. E. Manum; adulteration of honey, by E. A. Hasseltine.

Mr. Crane made a statement on winter packing, claiming that he was the first one to use it, that he knew of. He said the object to be obtained was to keep the cold and damp out, and the heat in; for this purpose he used refuse wool, woolen cloths, saw dust or chaff, and that he did not think it would hurt the bees to leave the packing on all the summer. The main benefit of packing he said, was to secure an equable temperature during the changeable weather of spring, when the young bees were hatching, and which was necessary. In answer to an inquiry he said that his brood chambers contained 2,200 to 2,300 cubic inches.

Then followed a short discussion on comb foundation, brought out by the inquiry of E. J. Wolcott about its sagging. It was generally thought by old bee-keepers that it did not bother much in that way. It was further stated that 1 lb. would fill 5 frames.

Dr. Bond read an essay, which was very interesting and instructive.

A discussion regarding the size of sections followed, led by H. L. Leonard. The drift of the discussion and feeling of the members was in favor of the Addison county section.

Mr. Manum's paper was read next, which gave a detailed account of his trip to New York and his attendance at the National Convention, to which he was sent as a delegate.

E. A. Hasseltine read an essay on adulteration, which was followed by a discussion on the subject. Mr. Crane thought it would be well to apply to the next legislature to have a law passed prohibiting the sale of honey adulterated with glucose.

EVENING SESSION.

The evening session was commenced by a very able and interesting extemporaneous lecture on "The constituent qualities of different kinds of Sugar," by Prof. H. M. Seely, illustrated by samples of the different kinds. A vote of thanks was tendered the Professor.

The subject, "The best method of introducing queens," was next discussed. Mr. A. E. Manum led the discussion with a method which was novel to the most of those present. He recommended taking a virgin queen but a few hours old and placing her in the hive to which he wished to introduce her, and put her into a cell among the hatching brood, and seal her up, breaking a little hole in the back of the cell, and letting the bees dig her out. He stated that this method had proved very successful.

Mr. Newton stated that he had practiced this method and had introduced queens in this manner which were two days old.

After some discussion, Mr. H. L. Leonard was called on for his paper, "The best location for bee-keeping." He recommended a situation near a basswood forest, a small stream and good white clover and raspberry pasturage. He also made the statement that there was a vast difference in the amount of honey to be found in vegetables growing on strong or light soils; the difference being in favor of a strong soil.

The last discussion for the evening was "Shall we glass sections for market?" Mr. Geo. O. Goodhue, of Danville, Canada, P. Q., had a very neat sample of wood side section, with sides secured with rubber band; these bands cost 10 cents per 100 and the wood sides cost very much less than glass, besides there is a great saving of time in putting up honey in this manner, besides to the buyer there is a saving of considerable weight which is lost in the glass. Mr. Goodhue stated that he marketed a great deal of honey that way, last year, and that retailers preferred it, with the exception of a few boxes glassed to place in the window.

Mr. Crane said that honey had a nicer appearance behind glass; that there would always be a call for glassed sections, and that they would bring a higher price.

Dr. Bond said that when the novelty of glassed sections wore off, people would prefer to buy honey at 20 to 25 cents per pound rather than glass.

As a whole, the meeting seemed to be divided as to the different plans, though the wood sides were favorably looked upon.

FRIDAY MORNING.

Mr. Geo. O. Goodhue was called upon to state the conditions of bee-keeping in Canada, but he called upon Mr. Newton of Middlebury, but formerly of Canada, to do so. Mr. Newton stated that he thought that bee-keeping was not in so advanced a state in the Provinces, as in the States; most bee-keepers practicing the old methods, though they were alive to the importance of the new systems of bee-keeping and were fast adopting the customs of the States, led on by the various bee papers.

"The best method of securing surplus honey." The method of securing it from brood chamber was rejected at once as impracticable.

Mr. Crane and Mr. Manum gave their views as to the side, and top box methods and without going into the details of their arguments, we would say that they as a rule favored top boxes, though when brood chambers were high and narrow it was thought that side boxes would be beneficial.

Dr. Bond stated that he had once been enthusiatic on tiering up, that is placing one box above another, but had given it up as impracticable.

Mr. Crane said that was the usual experience.

The next question for discussion was "Feeding to induce bees to finish boxes, already commenced."

Mr. Crane stated that this might be done successfully if the feeding commenced as soon as the honey supply ceased, but if a few days intervened before commencing to feed, there was a loss. He had made an improvement on extracted honey for feeding. He took boxes partly filled, broke the caps, placed them inside the hive and let the bees extract their own honey.

Mr. Manum said he had pursued this method successfully only when the boxes were laid down flatwise, otherwise the bees would repair the broken cells and not extract the honey.

"Comb foundation" was recommended as a good thing. J. R. Jones stated that he cut the foundation into three pieces, lapped them about one-half inch and pressed them together; he thought it made them stronger and less liable to sag.

The following committee was appointed to make honey exhibits at the County, State and other fairs: A. E. Manum, W. Newton, L. W. Peet and F. E. Smith.

On motion F. E. Smith, editor of the *Addison County Journal*, was chosen an honorary member, and also R. M. Bailey of the Middlebury *Register*.

The next question of "Has foul brood disappeared?" was settled in the affirmative, as far as those present were concerned; though it was stated that there was supposed to be some in Ferrisburgh.

The last question, "Do dollar queens pay? and if so, who,—the producer or the purchaser?" It was, after discussion, decided that it paid neither.

It was voted to hold the May and annual meetings on the third Thursday of May next, and the third Thursday in January, 1880; the May meeting to hold one day, and the January meeting two days, with an evening session of the first day.

F. BOND, *Sec.*

Central Michigan Association.

A meeting of bee-keepers was held March 10th, at Lansing, Mich. Bee-keepers from Ingham and adjoining counties were present as well as several connected with the State Legislature. Prof. A. J. Cook called the meeting to order, and, after an organization was effected, constitution and by-laws adopted, the following were chosen as officers for one year:

President.—Rev. J. Ashworth, Lansing, Mich.
Vice President.—Dr. W. W. Root, Mason, Mich.
Secretary.—Frank Benton, State Agricultural College, Lansing Mich.
Treasurer.—Mrs. L. B. Baker, Lansing, Mich.

The territory embraced is the counties of Ingham, Clinton, Eaton, Shiawassee and Livingston.

So far as examination had been made, only a few colonies properly prepared for winter had died.

The Secretary thought about nine-tenths of the value of straw or chaff packing was lost by having a board usually an inch board between the packing and the bees. He places the combs in an open frame-work made of wire or strips of wood and covered with cotton-cloth, which frame-work is then placed in a large dry-goods box and so packed as to leave six or more inches of dry chaff between each one of the six sides and the corresponding side of the outer box or case. The bees are thus kept warm and what is of vital importance perfectly dry, and will winter well with no further trouble if they have plenty of honey, are strong in numbers, and have a good queen.

A discussion as to the size of hives was had. Nearly all being satisfied with the Gallup frames which they were using.

Prof. Cook advised the frequent use of the extractor, it gave better chance for brood rearing, and produced more honey from each colony.

Adjourned to meet at the Capitol on May 10th, at 10 a.m. FRANK BENTON, *Sec.*

Business Matters.

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Single subscription, one year	$1 50
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Five or more, " " "	each, 1 00

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☞ A line will contain about eight words, fourteen lines will occupy an inch of space. Advertisements must be received by the 20th, to insure insertion.

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We do not send goods by C. O. D., unless sufficient money is sent with the order to pay express charges both ways, in case not taken from express office.

In consequence of the dearth of small currency in the country, we will receive either **1, 2 or 3 cent stamps,** for anything desired from this office.

Strangers wishing to visit our office and Museum of Implements for the Apiary, should take the Madison street-cars (going west). They pass our door.

Additions can be made to clubs at any time at the same rate. Specimen copies, Posters, and Illustrated Price List sent free upon application, for canvassing.

Remit by post-office money-order, registered letter or bank-draft, payable to Thomas G. Newman & Son, so that if the remittance be lost it can be recovered.

We will send a tested Italian Queen to any one sending us **FIVE** subscribers to the AMERICAN BEE JOURNAL with **$7.50.** The premium Queens will in every case be tested, but not sent till after July 1st.

Seeds or samples of merchandise can be mailed for one cent per ounce, Printed matter one cent for every two ounces. These must be tied up; if pasted, they are subject to letter postage. *Don't send small packages by express, that can just as well be sent by mail.*

For the convenience of bee-keepers, we have made arragements to supply, at the lowest market prices, Imported or tested Italian Queens, Full Colonies, Hives, Extractors and anything required about the Apiary. Our Illustrated Catalogue and Price List will be sent free, on application.

We have gotten up a "Constitution and By-Laws," suitable for local Associations, which we can supply, with the name and location of any society printed, at $2 per hundred copies, postpaid. If less than 100 are ordered, they will have a blank left for writing in the name of the Association, etc. Sample copy will be sent for a three-cent postage stamp.

Our answer to all who ask credit is this: We sell on **small** margins, and cannot afford to take the risks of doing a credit business. If we did such a business, we should be obliged to add at least 10 to 20 per cent. more to our prices, to make up for those who would never pay, and to pay the expenses of keeping book-accounts with our customers—this we know our **Cash** customers would not think to their advantage.—This rule we must make general in order not to do injustice to any one. The cash system gives all the advantage to cash customers, while the credit system works to their injury. In justice to all we must therefore require **Cash with the order.**

Bingham Smoker Corner.

Bingham was the first and original inventor of smokers that would burn stove-wood. Bingham & Hetherington were the first and original inventors of the new uncapping knives. Bingham is the first and original inventor of the new cotton-burning smoker now in the patent office. This is the only practical rag-burning smoker, and we expect bee-keepers who find fuel for smokers troublesome to obtain, will adopt it. It burns anything combustible, and rags to perfection. It is filled in an instant and makes an immense smoke, and one filling lasts for hours. It does not throw sparks or drop fire, even when pointed straight down. My smokers are the only ones which do not waste a particle of wind, and work equally well in all positions, whether the bellows is worked fast or slow. They are strong and light, work easily, and do not go out. The new rag-burners are the same size as the two larger wood-burners, and cost ten cents more. They burn fast or slow, as desired, and have no machinery to get out of order. Sent per mail, postpaid, on receipt of price :

Rag-burner—Large size, 2½ inch	$1 85
Standard, 2 inch	1 60
Wood-burner—Large size	1 75
Standard	1 50
Small	1 00
" per half-dozen, each	50

Honey Knives are not sent by mail, but we send them per express on receipt of price :

With movable cap-catcher	$1 25
Plain	1 00

For honey knives or smokers, or for knife and smoker circulars, address,

BINGHAM & HETHERINGTON, Otsego, Mich.

P. S.—Our contemporaries give us the begrudging compliment of copying our smokers as nearly as they dare to, and more nearly than the law allows. We caution purchasers against buying and using infringements.

P. S. No. 2.—Wonder who will be the first to copy my base-burning cotton-burner attachment! Sent postpaid on receipt of 25 cents and the diameter measure of any Bingham smoker. None sent unless ordered hereafter. Can be put in or taken out in an instant without change of parts. T. F. BINGHAM.

Lansing, Mich., March 4, 1879.

Friend Bingham :—As soon as Mr. Root's paper for February came out, I took one of your large sized smokers to the tinners to get it made over into a cold draft. Thought I, this will make a cool draft, cool fire tube, and will never blow out the fire to the discomfort of the bees, damage of quilts, &c. (not any decided objections to the old one, but not quite satisfactory to one who dreads burnt fingers and fire). Well, my new smoker did not please. I must often get a perfect volume of smoke instanter. This requires draft direct to the fire. You say that if your arrrangement for told blast is not liked you can change it back, and you show yoor usual ingenuity in making the change so slight that you *can* change back. The old Bingham is still ahead. A. J. COOK.

In reference to Bingham smokers, I can say that they are the best ; I have tried the others also, and know whereof I speak. F. A. SNELL.

Sunny Side, Napa Co., Cal., Feb. 7, 1879.

T. F. Bingham—Dear Sir : I have one of your smokers. It has done good work for one year, and is as good as new. Truly yours, J. D. ENOS.

Grand View, Iowa, March 18, 1879.

Mr. T. F. Bingham : Enclosed please find $1.75 for your extra large bellows smoker. I have sold the one I bought of you last summer, and must have another. I cannot manage the bees without one. I thought I would try one of the large ones this time, as I have 21 colonies of bees to attend to this season.

Mrs. A. B. WINDER.

Middlefield, N. Y., January 8, 1879.

Messrs. Bingham & Hetherington—Dear Sirs : We have been using your two-inch uncapping knife the past season. For rapidity and ease in operating they far excel any knife I have ever used. Its shape and beveled edges make it perfect for uncapping uneven and crooked combs. It works equally well with either right or left stroke. We uncapped hundreds of combs in prize boxes, and both my associates and myself have come to the conclusion that they facilitate the labor fully one-half, and are perfection itself, leaving nothing more to be desired. A. G. MURPHY.

Lansing, Mich., Feb. 11, 1879.

Mr. T. F. Bingham—Dear Sir : After a thorough trial of your honey knife here at the College, we pronounce it decidedly superior to any other that we have used, though we have several of the principal knives made in the United States. A. J. COOK.

Local Convention Directory.

1879. *Time and Place of Meeting.*

April 1,—Central Illinois, at Hillsboro, Ill.
3.—Northwestern O., at Napoleon, Henry Co., O.
May 1.—Southern Kentucky, at Gainsville, Ky.
5—N. W. Ill. and S. W. Wis., at Pecatonica, Ill.
6.—Albany County, N. Y., at Clarksville, N. Y.
6.—Central Kentucky, at Lexington, Ky.
6-7.—West. Ill. & Eastern Iowa, at Hamilton, Ill.
8-9.—Muscatine District, at Muscatine, Iowa.
10—Central Michigan, at Lansing, Mich.
12—Lancaster County, Pa., at Lancaster.
15—Addison County, Vt., at Middlebury, Vt.
21.—North Missouri, at McCredy, Callaway Co.
28.—North-Eastern Wisconsin, at Hartford, Wis.
Oct. 21.—National Convention, at Chicago, Ill.

1880.
Feb. 11—Northeastern, at Utica, N. Y.

☞ In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

Queens. 1879. Queens.

We shall be able to furnish Italian Queens after May 15th, at following prices :

Choice Tested Italian Queens	$2 50
Warranted " "	1 50
Queens bred from Imported Mothers, but not warranted	1 00

FOUL BROOD

will be cured with our "Foul Brood Remedy." Cure warranted. Write for particulars.

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From Fifteen to Thirty Dollars.

Send 3c. stamp for samples and price list after April 10. A success for bedding wire in foundation.

D. S. GIVEN, Hoopeston, Ill.

Italian Queens or Colonies.

Eighteen years experience in propagating Queen Bees from imported mothers from the best districts in Italy. Persons purchasing Queens or Colonies from me will get what they bargain for. Send for circular.

WM. W. CARY,

3-tf Colerain, Franklin Co., Mass.

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50 Colonies of Italian Bees for sale cheap.

3-tf WM. J. ANDREWS, Columbia, Tenn.

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I scarcely looked up from the volume before I had scanned all its fascinating pages.—*Prof. A. J Cook.*

It possesses such a fluent style that its perusal was a great pleasure. Its contents cover all the ground in bee-keeing, from "Beginning" to "Marketing."—*American Bee Journal.*

The book is beautifully written, and commanded my undivided attention from the beginning to the end. I wish you had called it "The Romance of the Blessed Bees."—*Rev. L. L. Langstroth.*

It has the fascination of a novel. Its English is so simple, terse, and good, that it has given me real delight.—*Mrs. Helen Hunt Jackson ("H. H.")*

Mr. Allen's book is a very clear and precise account of the way in which he succeeded in bee-keeping.—*Atlantic Monthly.*

The subject is deprived of all dryness and made as interesting as a story, by an accompanying narrative of personal effort, investigation, and industrious application.—*Harper's Magazine.*

His method of procedure is told in simple, beautiful language, and the story is more fascinating than many a novelette with greater pretensions.—*Christian Register.*

* * * These chapters cannot fail to aid in diffusing a knowledge of bee-culture, and they will give, moreover, great pleasure to many readers who have not the remotest anticipation of undertaking bee-culture.—*Denver Tribune.*

The book is written in a clear, concise manner, and will hold the reader spell-bound until he has perused the last page.—*Bee-Keepers' Exchange.*

It is not only valuable, but interesting as a story.—*Detroit Post and Tribune.*

Conveys a good deal of information in a pleasant way.—*Cultivator and Country Gentleman.*

So delightfully written that no one can fail to enjoy it.—*N. Y. Churchman.*

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Well made and painted, furnished with metal rabbets, and all wood-locked frames:

1 story	10 frame hive, complete		$1 10
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Send for price-list of Queens, full colonies, four-frame nuclei, comb foundation, and apiarian supplies. Satisfaction and safe arrival guaranteed. All Queens reared from Imported Mothers.

4-tf H. H. BROWN, Light Street, Col. Co., Pa.

FOR CANADA.

Bee-keepers in Canada will save money by purchasing their supplies of J. A. WATERHOUSE,

4-5 165 East Avenue, Hamilton, Ont.

For Sale!

AN APIARY, cheap, choice location.
FULL COLONIES, $4 to $8 for best.
QUEENS, June, July, Aug., $1.50.
Bingham Smokers and Knives, at regular prices.
HIVES, Improved Langstroth, $2.50, complete.
GLASS, for honey boxes, &c., per bx, $2.50.
Extractors, Section Boxes, Comb Foundation, Labor-Saving Registers, Bee-Veils, &c., at bottom prices.

Send Address for List.

JAMES HEDDON,

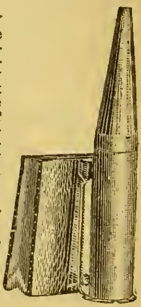
DOWAGIAC, MICH.

BINGHAM'S

DIRECT-DRAFT

BEE SMOKER.

Patented January 9, 1878; re-issued July 9, 1878.



Burns anything, and never goes out.

In these days of progress, no one thing has added more to the success of bee-culture than the Bingham Smoker. Send on your money and our word for it, you will think it the best investment you have made. This is the ONLY PATENT bee smoker, and parties are cautioned against buying other DIRECT DRAFT smokers. Sent by mail, post-paid, on receipt of price.

Many thousand are in use.

Hundreds of unsolicited letters testify to their superior excellence.

Extra Large size	..2½ inch,	$1 75
The Standard "	..2 "	1 50
Smalt "	..1¾ "	1 00

Manufactured only by the inventor.

☞ Send for Circular for Patent Honey Knifeand Smoker. **T. F. BINGHAM,** Otsego, Mich.

ITALIAN QUEENS,

1879.

Price, April, May and June	each,	$3 00
" July, August and September	"	2 00

STANDARD OF PURITY.

All Queens guaranteed to be of good size, vigorous and producing workers large and uniformly marked with three distinct yellow bands, of fine golden color. We shall have a shipment of fine *Tested* Queens, from Italy, in April, selected for our Apiary.

No Circulars. [2-tf] A. F. MOON, Rome, Ga.

CHEAP BEES,

In good, new, movable comb hives at $5.00 each. Queens, hives, sections, &c., at reasonable prices, but not to give away. No chromos offered! Refer to 1st National Bank, and Express Agents.

E. A. GASTMAN, Decatur, Ill.

Herbert A. Burch & Co.'s Full Page.

Up with the Times.

Fully realizing the present low price of all commodities, and believing the low price of honey calls for the LOWEST RATES on APIARIAN SUPPLIES, we have reduced margins and cost of manufacturing, and invite the attention of bee-keepers to the following prices. The QUALITY of our goods is UNEXCELLED.

Italian Queens.

Untested Queens, each	$1.00
" " per half dozen	5.75
" " " dozen	11.50
Warranted " each	1.50
" " per half dozen	8.00
" " " dozen	15.00
Tested " each	2.50
" " per half dozen	13.00
" " " dozen	25.00
Selected tested Queens, each	3.50
Imported " "	4.50

Nucleus Colonies.

1 Nucleus Colony	$3.00
6 " "	16.50
12 " "	30.00

Comb Foundation.

10 pounds, per lb	53 cts
25 " "	52 cts
50 " "	50 cts
100 " "	48 cts
500 " "	45 cts

Tin Separators.

For Langstroth frame per 100	$2.50
" " " " 1000	24.00
" American " " 100	2.00
" " " " 1000	18.00
" Novice Section " 100	2.00
" " " " " 1000	18.50

Broad Frames.

Material complete, per 100	$2.50
" " " 1000	22.00

Prize Boxes.

Material for Prize Boxes, per 1000	$5.75
" " 2000 to 4000 "	5.50
" " 4000 to 8000 "	5.25
" " over 8000 "	5.00

Dovetailed Sections.

Material 4¼x4¼ in. per 1000	$7.00
" " 2000 to 4000 "	6.75
" " 4000 to 8000 "	6.50

Our New Section.

Material complete per 1000	$5.25
" " for 2000 to 4000 "	5.00
" " " 4000 to 8000 "	4.75
" " " over 8000 "	4.50

Bee Hives.

Langstroth hives 10 to 15, each	.80
" " 15 " 25 "	.75
" " 25 " 50 "	.70
" " 50 " 100 "	.65

We furnish above with our new surplus arrangement, the best in use at these rates:

Material for Langstroth hives and Supers, complete, 10 to 15, each	.85
" " 15 " 25 "	80
" " 25 " 50 "	.75
" " 50 " 100 "	.70

Burch's Honey Extractor	$8.00
Wax Extractor	3.25
Shipping Crates for prize boxes, per 100	9.00
Burch's Queen Cage, per dozen	1.00
" " " sample by mail	.12
Sample of comb foundation, prize box or section, each	.6

Above is a fair sample of our prices. We sell many other articles, however, which are useful to bee-keepers. Send for our descriptive 40-page Catalogue, which contains VALUABLE INFORMATION to all bee-keepers. After reading it, we feel sure that you will find to your advantage to order your SUPPLIES for the Apiary of

HERBERT A. BURCH & CO.,

South Haven, Mich.

1879. Queens!--Queens! 1879.

ITALIAN QUEENS!
CYPRIAN QUEENS!
HUNGARIAN QUEENS!

During the past eighteen years we have been

HEAD-QUARTERS!

for Italian Queen Bees, and now we have added the Cyprian and Hungarian bees to our stock. To be up with the times, we shall continue to sell

DOLLAR QUEENS!

With our long experience in the Queen-rearing business, we can warrant all our Queens to be purely fertilized, and we also guarantee safe arrival by *mail* or *express*. Parties intending to purchase Queens the coming season should read our

Special "Queen Bee" Circular!

giving instructions for introducing Queens safely, and containing other information valuable to bee-keepers. All bee-keepers should read our eighteenth annual circular and price-list of apiarian supplies. Both circulars sent free.

PRICES OF QUEENS.

Tested Queens, each	$2 00
" " per dozen	20 00
Warranted Queens, each	1 00
" " per dozen	11 00

IMPORTED QUEENS.

Cyprian, each	$10 00
Hungarian, each	5 00
Italian, each	4 50

H. ALLEY,
Wenham, Essex Co., Mass.

LAND IN FLORIDA.

640 ACRES OF TIMBER LAND in Northern Florida, about 50 miles south of the Georgia Line, 25 miles west of Tallahassee, and near the Apalachicola river. Title clear and unincumbered. Will trade the above described land, either a part or the whole, for a farm or an apiary in some North-western State, at a fair valuation for both. For particulars, giving a description of what you wish to offer in exchange, addresss, FLORIDA LAND, care AMERICAN BEE JOURNAL, Chicago.

For Sale Cheap.

200 Colonies of Italian Bees.

Having over 450 Colonies of Italian Bees, I will sell 200 in lots of 25, 50, 100 or 200 at $5.00 each, delivered on board of any Mississippi river steamboat. All the Queens are daughters of Imported Mothers, of different parts of Italy. ☞ Dollar and Tested Queens now ready to ship. Comb Foundation, Apiarian Supplies, &c. Address,
4-tf PAUL L. VIALLON, Bayou Goula, La.

BEE-KEEPERS' SUPPLIES.

A New Circular and Price-List free, now ready. New machinery to manufacture bee hives and supplies. Kept on hand, Queens and 2 and 3 frame nuclei. Dovetailed sections, $6.00 per 1,000.
S. D. & M. A. BUELL, Union City, Mich.

Golden Italians.

We have them in their purity. Circulars and prices free.
J. M. BROOKS & BRO.,
4-9 Box 64, Columbus, Ind.

Look Here.

HART'S IMPROVED

LANGSTROTH HIGH-PRESSURE BEE HIVE!

After about fifteen years experimenting, simplifying and utilizing, I have succeeded in arranging a hive that I am confident possesses more advantages for less money than any other yet offered, and as it is patented—by letters dated 1868 and 1872—will state some of the advantages: It is double and triple walled, *one thickness tarred roofing paper*, side opening, fast or loose bottom, adjustable portico and honey-board, can be used single or two-story, long, low brood-chamber, or compounded to suit any sized swarm, either for comb or extracted honey, breeding colonies or for a non-swarmer. Now, after testing my hive thoroughly, I wish to introduce it to the bee keepers of the United States, either by selling territory very cheap, or by responsible agents, giving references, to manufacture and sell on a royalty. By sending 25 cents in stamps you will get a pamphlet of 50 pages, describing it more particularly, and giving much useful matter pertaining to my plan of working, &c. **A. H. HART.**
Appleton, Wis., March 12, 1879.

BEFORE

purchasing colonies with imported queens, or home-bred queens, Italian queens, COMB FOUNDATION, and implements in bee culture, write for circular with prices, and sample of comb foundation free, to

CHAS. DADANT & SON,
Hamilton, Ill.

EGGS! EGGS!

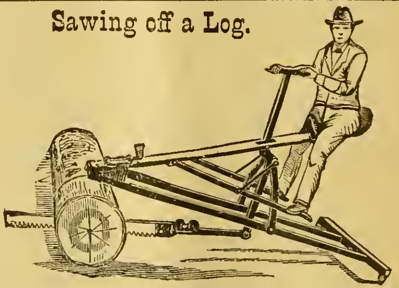
FOR HATCHING.

Packed in new baskets for any distance, from First Premium Brown Leghorn and Black B. R. G. Bantams, mated for me by I. K. Felch, and purchased of him, who says they are as good as money *can* buy of him. A fair hatch guaranteed or order duplicated, at $2.50 per 13, or $4.00 for 26.
4-5 C. W. CANFIELD, Athens, Bradford Co., Pa.

Any one wanting an Experienced Bee-Keeper, to take charge of or assist in the Apiary the coming season, will please address
DANIEL KEPLER, Napoleon, Ohio.

Improved Langstroth Hives, Section Boxes, Comb Foundation and Apiarian supplies cheap. Wax wanted to work up on shares, or will pay market price. Send for price list. Work guaranteed. Olivet Apiary.
A. D. BENHAM, Olivet, Eaton Co., Mich.

Sawing off a Log.



This SAW MACHINE is a wonderful invention. The weight of the man who is sawing does half of the work. It saws logs of any size, and will saw off a 2 foot log in 2 minutes. Circulars free. Address, Wm. GILES, 696 W. 6th St., Cincinnati, Ohio.

J. OATMAN & SONS' CORNER.

We wish to inform our friends that we are producing

COMB FOUNDATION,

in large quantities and of superior quality. Our facilities are such that we can supply in any quantity desired on short notice, and all favoring us with their orders shall have prompt and satisfactory attention. In at least one point our foundation excels that produced by any manufacturer in the country. Will supply in any quantity wanted, or size desired, at the following prices :

1 to 20 lbs.,	per lb	55c.
25 to 45 "	"	53c.
50 to 90 "	"	52c.
100 to 400 "	"	50c.
500 to 900 "	"	48c.
1000 lbs. and upwards, special figures.		

If ordered in lots of 5, 10, 15, 25, 50 or 100 lb. boxes, 8x16½ or 12x18, ten per cent. may be deducted from the above figures.

Wax to be made into Foundation.

Lots of 100 lbs. and upwards sent us, with 12½c. per pound, freight pre-paid, will be made up and cut to any size, and delivered on board cars here.

Italian Queens.

The superiority of the Queens reared in our apiaries is so well established, we shall not here detail their merits ; but to those wishing honey-producing stock, combined with prolificness, we will say they are not beaten. Our arrangements for breeding largely are complete, and we shall take pleasure in booking *your order now*. Those desiring Queens among the first sent out, will do well to order at once.

Dollar Queens, each	$1 00
" " per doz	11 50
Warranted Queens, as good as ordinary Tested, each	1 50
Ditto ditto ditto per doz	15 00

Langstroth and Modest

BEE HIVES,

for the million, at prices to suit the times.

Honey Boxes and Sections,

plain and dovetailed, are large specialties, and if you desire a nice job, at a fair price, we can accommodate you.

Extractors, Smokers, Bee Veils,

and everything needed in the apiary, supplied at the lowest living rates. Order your goods early, remembering that *large* yields of honey are only obtained by having *everything ready* for securing it.

J. OATMAN & SONS,

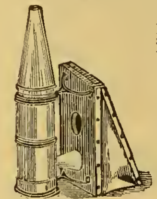
4-tf Dundee, Kane Co., Ill.

FOR QUEENS, BEES, HIVES,

and all kinds of Supplies at bottom prices, ask for Price List.

B. B. BARNUM,
Louisville, Ky.

"QUINBY'S NEW BEE-KEEPING."



A revision of "Bee-Keeping Explained," with much new matter, and practical illustrations. Fully up to the times. Price, $1.50.

Quinby Bellows Smoker,

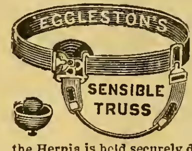
Patented, and much improved. The best in market. Three sizes : by mail, $1.00, $1.50 and $1.75. Send for circular of *new* supplies to

L. C. ROOT,
Mohawk, Herk. Co., N. Y.

EVERETT'S HONEY EXTRACTORS!

and everything useful pertaining to bee-culture ; Italian Bees and Queens ; Hives and Sections, first class, and very low in price. Everything guaranteed as represented. Before purchasing, send your name and address, along with that of your bee-keeping friends, on a postal, and you will receive by return mail our new 16-page illustrated circular and price list, with valuable information.

Address, EVERETT BROS.,
107 Monroe Street, Toledo, Ohio.



THIS NEW ELASTIC TRUSS

Has a Pad differing from all others, is cup-shape, with Self-Adjusting Ball in center, adapts itself to all positions of the body, while the BALL in the cup PRESSES BACK the INTESTINES JUST AS A PERSON WOULD WITH THE FINGER. With light pressure the Hernia is held securely day and night, and a radical cure certain. It is easy, durable and cheap. Sent by mail. Circulars free. **Eggleston Truss Co., Chicago, Ill.,**

8y1

THE VOICE OF MASONRY AND FAMILY MAGAZINE FOR 1878.

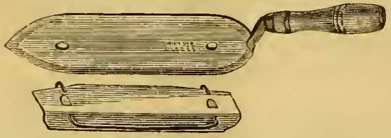
Will be edited as heretofore; will contain 960 pages of Masonic and Family Literature: will be finely illustrated, and will furnish a greater variety of articles from a greater number of contributors than has appeared in any preceeding volume. No proper efforts will be spared in making it, beyond question, the most attractive and valuable volume of a Masonic and literary magazine ever published. Published monthly, at $3.00 per annum, in advance. Single copy, 30 cents. Address JOHN W. BROWN, Publisher, room 12, 182 S. Clark St., Chicago, Ill.

CLUBBING LIST.

We supply the AMERICAN BEE JOURNAL and any of the following periodicals at the prices quoted in the last column of figures. The first column gives the regular price of both.

Gleanings in Bee Culture	$2 50	$2 25
Bee-Keepers' Magazine	3 00	2 50
The three Bee papers of U. S.	4 00	3 25
British Bee Journal	4 00	3 50
All four—British and American	6 50	5 00
American Poultry Journal	2 75	2 50
American Agriculturist	3 00	2 50
Moore's Rural New Yorker	4 15	3 25
National Live Stock Journal	3 65	3 15
Prairie Farmer	3 50	3 15
Scientific American	4 90	4 35
Western Rural	3 50	3 15

Bingham & Hetherington
HONEY KNIVES!



Are used plain, if the combs are held upright, and with the cap-catcher, if laid on a table. They are not *like any other* honey knife ever made. They are superior in finish and temper, and do much more and better work. *No one can afford to be without one.* Plain, $1.00; with movable cap-catcher, $1.25. Send for Circular for dozen rates for Knives and Bingham Smokers to BINGHAM & HETHERINGTON,
Abronia, Allegan Co., Mich.

Bee-Keepers' Supplies!

I shall continue to sell, at reasonable rates, a large variety of Bee-Keepers' Supplies, such as

MUTH'S ALL-METAL HONEY EXTRACTOR,

UNCAPPING KNIVES,

WAX EXTRACTORS,

LANGSTROTH BEE HIVES,

SECTIONAL BOXES,

SQUARE GLASS HONEY JARS,

to hold one and two pounds each, with Corks, Tinfoil, Caps and Labels, ½ lb. Tumblers, Glass Fruit Jars, &c.

COMB FOUNDATION,

BEESWAX, GLOVES, VEILS, STRAW MATS, ALSIKE CLOVER SEED,

as well as a great assortment of Garden and Field Seeds, &c. For further particulars address,

CHAS. F. MUTH,
2-tf 976 and 978 Central Ave., Cincinnati, Ohio.

Hives and Section Boxes.

Material for Langstroth Hives, with 9 Frames and 6 Cases for sections, in the flat	$1 00
Sample Hive, in the flat	1 25
Dovetail Section Boxes, any size under 6x6 in., in lots of 500	3 50
" " 1,000	6 50

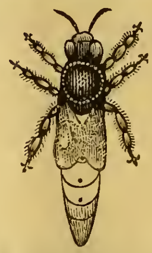
Prize Boxes ready to nail at same prices. Send for Circular and Price-List. W. D. PARKER, Manufacturer, Defiance, Ohio. 2-5

2,000,999 Strawberry, Raspberry, Blackberry, Currant, Grape Vines, Asparagus Roots, Peach Trees.

100 SELECTED VARIETIES.

Genuine Stock. Quality best. Prices lowest. Send for free Catalogue to JONH S. COLLINS, Moorestown, N.J.

1879. **1879.**



REV. A. SALISBURY & HAYES,

CAMARGO, ILL.,

Breeders of Pure Italian Bees and Queens, from Imported and Home-Bred Mothers, and Manufacturers of Hives, Prize Boxes, Comb Foundation, and all general Apiarian Supplies.

BEES.	
Reserved and Early Tested Queens	$3 00
Queens, July to September	2 50
Colonies of 10 frames	9 00
" 12 "	10 00
Nucleus, 1 frame	4 00
Comb Foundation, 10 lbs. or over, per lb.	50

Wax cleaned and worked for 25c. per lb., or on one-half shares.

☞ Send for Circular. 2-7

Italian Queen Bees
FOR 1879.

I shall breed Italian Queens for the coming season, from imported mothers of undoubted purity. Safe arrival and purity guaranteed in every shipment. Prices very low. Circulars sent free. Address,
D. P. MYERS,
aply1 West Salem, Wayne Co., Ohio.

BEFORE PURCHASING

Supplies for your Apiary, send a postal card with your name (and if you will do us the kindness, those of bee-keeping neighbors) for our illustrated circular of Apiarist's Supplies, of every description; sample Sectional Box, and Comb Foundation made on the

Dunham Foundation

machine, which is the latest improvement in that line. We wish to place these samples before

EVERY READER

of this JOURNAL, and hence offer them **FREE.** Just send your name at once. Special attention given to rearing Italian Queens and Bees.

☞ We have secured the general agency of the above machine.

The highest price paid for Beeswax.
1-tf J. C. & H. P. SAYLES, Hartford, Wis.

In the Market again with 100 Colonies of

ITALIAN BEES,

with young, fertilized Queens, less than 60 days old, at $5.00 per Colony. We shall continue to rear Queens through the season as usual.

Tested Queens, per dozen	$25 00
Untested Queens, "	10 00

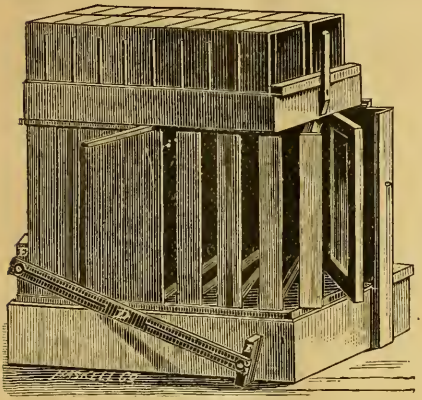
Safe arrival guaranteed. Address,
D. STAPLES & SON, Columbia Apiary,
1-6 *Columbia, Tenn.*

ITALIAN NUCLEI.

Strong 4 frame Nucleus, in new hives, all complete, for	$5 00
Two frame nucleus	2 50

All Queens reared in full colonies, from a choice Imported Mother. HIRAM ROOP,
2-tf Carson City, Montcalm Co., Mich.

ARMSTRONG'S



IMPROVED

CENTENNIAL BEE HIVE.

☞It is the best and most completely arranged hive for all general purposes now in existence. It has been thoroughly tested in every part, and is warranted to give entire satisfaction when given a fair trial. Here is what a practical bee-keeper, of Winchester, says of it:

Plattsburg, Mo., March 13, 1879.

Mr. Elvin Armstrong, Jerseyville, Ill.:

Dear Sir:—I received your Improved Centennial Bee-Hive to-day, and after a careful examination of the same, and with the success I have had with the fifty-odd hives I bought of you last year, I can frankly say, that you have a first-class hive in every respect. I truly think a great deal of it on account of its simplicity and the ease with which I can handle my bees in it; and for out-door wintering I think it has no superior, for the past winter has been a very severe one in this locality (certainly a good test for any hive), and my bees have never come out in finer condition than they have this spring in your hives. Hoping you may be successful in introducing so valuable a hive through the country, I remain,

Yours truly, F. C. FROST.

Correspondence solicited. Send for descriptive circular.

Address, ELVIN ARMSTRONG,
Jerseyville, Illinois.

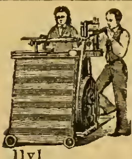
Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send you a sample copy of our

Monthly Gleanings in Bee-Culture,

with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Artificial Comb, Section Honey Boxes,** all books and journals, and everything pertaining to Bee Culture. *Nothing patented.* Simply send your address on a postal card, *written plainly,* to A. I. ROOT, Medina, O.



JOYFUL News for Boys and Girls! Young and Old!! A NEW INVENTION just patented for them, for Home use!

Fret and Scroll Sawing, Turning, Boring, Drilling, Grinding, Polishing, Screw Cutting. Price $5 to $50.

Send Stamp and address
EPHRAIM BROWN, Lowell, Mass.

11y1

"Valentines' Italian Bee-Yard"

ESTABLISHED 1867!

Send for new Price-List of Imported and Home-Bred Queens, Comb Foundation, Hives, Section Boxes, Extractors and Bee-Keepers' Supplies. Also, high-class Poultry. Queen-breeding a specialty. First Premiums awarded us at St. Louis Exposition for 1879, on best Italian Bees and Honey.

VALENTINE & SON,
1-6 *CARLINVILLE, ILL.*

Cheap Hives.

See our "ad." in JOURNAL for December, January, February and March.

CHEAP SECTIONS.

Following prices are for any size up to 6x6:

Plain, sawed smooth, per 1,000	$4 50
" sandpapered, "	5 50
Dovetailed, sawed smooth, per 1,000	5 50
" sandpapered, "	6 50
Lewis' Sections (all in one piece), sandpapered, per 1,000	7 50

Lewis' Honey Boxes and Dovetailed Honey Boxes, very cheap, all of excellent material and Workmanship.

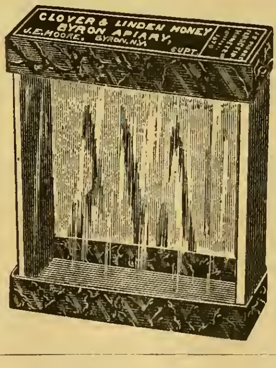
☞ Send for Price-List.

LEWIS & PARKS,
successors to G. B. LEWIS,
12-m6 Watertown, Wis.

J. E. MOORE'S PERFECTION HONEY BOX.

Patented May 7th, 1878.

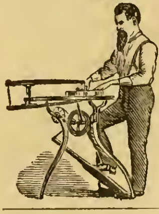
CIRCULARS FREE,
Address, BYRON APIARY,



J. E. MOORE, SUPT.,
BYRON, N. Y.

BARNES' PATENT

Foot-Power Machinery



CIRCULAR and SCROLL SAWS

Hand, Circular Rip Saws for general heavy and light ripping. Lathes, &c. These machines are especially adapted to **Hive Making.** It will pay every bee-keeper to send for our 48 page Illustrated Catalogue.

W. F. & JOHN BARNES,
Rockford, Winnebago Co., Ill.
junely

Bees!---1879.---Bees!

Full Colonies, Nuclei and Queens Cheap. Supplies furnished. Satisfaction guaranteed. Write for particulars. S. D. McLEAN & SON, Culleoka, Maury Co., Tenn. 2-7

BEFORE

purchasing colonies with imported queens, or home-bred queens, Italian Queens, COMB FOUNDATION, and implements in bee-culture, write for circular with prices, and sample of comb foundation free.

Fifty good Colonies of Common Bees, in box hives, for sale at $3.50 each. Address,

CHAS. DADANT & SON,
Hamilton, Ill.

Material Ready to Nail!

For Prize Boxes, sawed from white basswood or pine, one side planed smooth by machine, to fit glass 5x6 inches or less:

In lots of 500 to 5,000, per 1,000..............$7 00
“ more than 5,000, per 1,000........ 6 00

Material for Cases, according to size; material for Improved California Boxes, sides put together, according to size. SEYMOUR RUGGLES,
3-tf Saratoga Springs, N. Y.

AT REDUCED RATES!

1879—Early Italian Queens.—1879.

Imported and home-bred Queens, Nucleus Colonies, Full Colonies. For qualiiy and purity, my stock of Italians cannot be excelled by any in America.

If you want the best Movable-Comb Bee-Hives, suited to the Southern climate, Honey Extractors, Bee-Veils, Smokers, Feeders, Gloves, or bee-fixtures of any kind, send for my new Circular. Address,
1-6 Dr. J. P. H. BROWN, Augusta, Ga.

ITALIAN BEES.

Price-current in gold, for the year 1879, of the Apicultural Establishment of L. R. Lambertenghi, Bergamo and Gorlago, Italy.

For the United States, North America.	April, May and June.	July and August.	Sept. and October.
A—Fecunded Queens, pure race, with the necessary accompaniment of bees, post free to New York:			
For an order of 1 Queen...............	$8 50	$8 00	$7 50
“ “ 2 “ ....each	7 00	6 50	6 00
“ “ 3 “ .... “	6 00	5 50	5 00
“ “ 4 “ .... “	5 00	4 50	4 00
“ “ 5 “ .... “	4 00	3 50	3 00
“ “ over 5 Queens... “	3 50	3 00	2 00
B—Swarms, or colonies, post free to New York:			
For an order of 1 swarm or colony...	11 00	10 50	9 50
“ “ 2 to 5 colonies, each..	9 00	8 00	7 00
“ “ over 5 “ “ ..	7 00	6 00	5 00
C—Common hives, post free to N. Y.:			
For an order of 1......................	14 00	....	14 00
“ “ 2 to 5, each	12 00	....	12 00
“ “ over 5, “	10 00	....	10 00
D—Hives with movable combs, post free to New York:			
For an order of 1........................	16 00	....	16 00
“ “ from 2 to 5, each.....	14 00	....	14 00
“ “ over 5, “	12 00	....	12 00

The transport post free to New York, from thence continues to its destination at expense of the person who gives the order. For an order of *ten* articles an *eleventh* is included gratis, as a recompense in case of eventual loss during the voyage. An order letter A for more than 25 Queens at a time is entitled to a discount of 5 per cent., and one for more than 50, a discount of 10 per cent. The necessary nutrition for the voyage and packing is included in the price. I guarantee for the purity and fertility of the Queens that I send, it being my interest to merit your commands. The order must be accompanied with its relative *sum anticipated*, or at least a half for those given a month or two back, paying the other half at the appointed date before the exportation. Postoffice orders, either international or consular, offer the easiest and securest way of payment. In order to fulfil everything according to the wish of those who honor me with their commands, I beg the same to forward me as early as possible their orders, with their precise address, that of the post office, and nearest railway station or sea port, indicating at the same time the commission agent with whom they wish their goods to be left on their arrival in New York, to be reforwarded to their destination. With profound respect,

LUIGI RUGGERO LAMBERTENGHI.

Sweet Home Raspberry.

For Comfort and Health every garden should supply its owner with Fruit; it is the foundation and beginning of happiness; it makes the countenance brighten, the world look gay, delightful and sunny; it makes happy homes, and healthy, cheerful people to live in them.

For hardiness, easy culture, quality of fruit, early and constant bearing, there is none that equals the *Black Raspberry*. It has been wonderfully improved by cultivation and crossing.

In 1873 I produced a seedling of Lum's Everbearer, which is still growing near my front gate. In 1874 and since, it has been admired by all visitors for the great amount and large size of its fruit.

Having the peculiar *sweetness* of its parent, it makes it the most *delicious berry* for the *table, preserving* or *jelly*. It being the *firmest* berry grown, makes it the *best* for *canning* and *drying*.

The Sweet Home canes grow *upright* and *stocky*; but few thorns; increased from tips; never has winter-killed; ripens two weeks later than Doolittle, and continues till blackberries ripen; the fruit continues to hold its large size till the last picking. It bears such *immense crops* that the canes must be cut thoroughly back or tied up, or it will be as one fruit man said when beholding it, “*Loaded to the ground.*” We have picked from *one cane* of Sweet Home, *one thousand and fifty* (1,050) berries, filling 3 quarts; there were two more canes from the same root.

The clusters, as seen in the colored fruit-plate of Sweet Home, average from 25 to 30 berries each. Their large size and firmness, together with the closeness of the berries in a cluster on the outside of the bush, enables me to get them *picked for one cent less per quart* than other varieties

The editor of The American Bee Journal, or any of the following persons, may be written to in reference to my reliability, or qualities of Sweet Home:

Being a general merchant of New Boston, Ill., I have handled many varieties of raspberries. The past season I have sold, among others, the Sweet Home, and found it *superior* to all others in *size, flavor* and *firmness*. Their firmness will enable them to be shipped a long distance with less shrinkage and *keep one day longer* in market than any other variety we have handled. I have spoken for Mr. Palmer's whole crop of Sweet Home raspberries next year.
C. A. Ballard.

We, the undersigned, members of the New Boston Cornet Band, on the 4th of July last visited the berry plantation of Sweet Home; we there saw many varieties, our eyes and appetites doing justice to test their variations. *The stocky canes of Sweet Home were loaded to the ground with the largest, best flavored berries we ever saw.*

O. H. Bell, F. Swertfeger, W. B. Danford,
Ed. Alyea, Mozart Danford, Geo. Signor,
Wm. Hunt, J. Bell, Lloyd Myers.

I grow and handle fruit; have ordered 1,000 plants of Sweet Home. Their flavor, size, firmness and *freeness from bleeding* (the less bleeding of juice the longer they will keep from souring), will make them *very valuable* for shipping and handling.
Capt. H. B. Southard.

T. McWhorter, of Aledo Nursery, this county, in his circular of nursery stock says: “Sweet Home—Valuable; well tested on my own grounds.”

The Sweet Home raspberry has done finely; bush grows *thrifty* and *stocky*; berries *very firm*; ripens from 12th to 31st of July; *size decidedly larger than any other black cap* I have seen. Should call it a fine berry for marketing. E. W. Brewster.
Kingston, Plymouth Co., Mass.

The following is from the father of bee-keeping in this county. He runs from 200 to 300 colonies of bees, also considerable fruit:

I never saw the Sweet Home equaled in size of berry. The *bushes* were *loaded to the ground* with the *most delicious* finely flavored berry I ever ate. I shall set largely of Sweet Home this season.
Eliza, Mercer Co., Ill. Jesse Bogart.

We sold all the plants we had to spare last season, and now offer you by mail 1 strong plant for 25c.; 12 for $1.50; 100 for $6.00; by express, 1,000 for $30.00. Colored Fruit-Plate 9x11 of Sweet Home for 20c.

Doolittle, Mammoth Cluster, Miami, Seneca, Davidson's Thornless, Golden Thornless, 10c. each, 60c. per dozen, by mail; $1.50 per 100, $10.00 per 1,000 by express.

Ganargua, Lum's Overbearer, Philadelphia, Brandywine, Turner, 15c. each, $1.00 per dozen, by mail.

Address, **D. D. PALMER**, New Boston, Ill.

GREGORY'S
SEED
CATALOGUE

My annual Catalogue of Vegetable and Flower Seed for 1879, rich in engravings, from original photographs, will be sent free to all who apply. Customers of last season need not write for it. I offer one of the largest collections of vegetable seed ever sent out by any seed house in America, a large portion of which were grown on my six seed farms. Printed directions for cultivation on each package. All seed warranted to be both fresh and true to name; so far, that should it prove otherwise, I will refill the order gratis. The original introducer of the Hubbard Squash, Phinney's Melon, Marblehead Cabbages, Mexican Corn, and scores of other vegetables. I invite the patronage of all who are anxious to have their seed directly from the grower, fresh, true and of the very best strain. **New vegetables a specialty.**

JAMES J. H. GREGORY,
Marblehead, Mass.
12–5t

1865.— **THE** —1879.

HONEY HOUSE.

C. O. PERRINE, 54 & 56 Michigan Av., Chicago.

As a Manufacturer of

COMB FOUNDATION,

I can say my goods have given entire and universal satisfaction. The ruling low prices were made by me, and any one desiring any considerable quantity would do well to consult me before buying elsewhere.

☞ Market price for Beeswax.

Baker & Co. Designers and

PHOTO ENGRAVERS ON WOOD.

COR. CLARK & MONROE STS: CHICAGO.

DEALERS IN ENGRAVING TOOLS & ENGRAVERS OUTFITS.

ORDERS BY MAIL SOLICITED.

ITALIAN BEES FOR 1879.

This is my 13th year with Italians. I will sell pure tested Queens for $3.00, till July 1st. Full Colonies in Langstroth hives, $10 to $12.00. Nuclei, with 3 full frames, $6.00. Several leading varieties of Poultry. No dollar or unwarranted queens.

2-tf R. M. ARGO, Lowell, Ky.

Pure Italian Queens and Colonies

For Sale for 1879.

—o—

The best is the cheapest at any price. Circular sent free. Address, D. A. PIKE, Box 19, Smithsburg, Washington Co., Md. 2-5

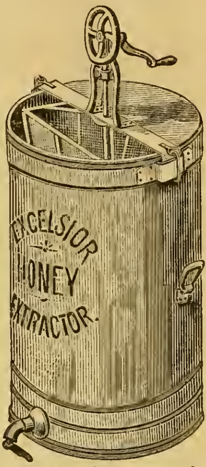
L'APICULTEUR. is the title of the French Monthly Journal devoted to bee-culture, edited and published by Mons. H. Hamet, Rue Monge 59, Paris. Price 7 francs.

COFFINBERRY'S

Excelsior Honey Extractor,

FOR EITHER

TWO OR THREE FRAMES.



This Extactor takes any size of frame smaller than 12x20. Larger sizes will be made to order if required. For extracting 4 frames at one time, add $2.00

It is made entirely of metal, and is the best Honey Extractor in the market. It is light, but has attachments for fastening down to a platform. It can be instantly taken to pieces for cleaning, having no screws to take out, nor heavy pieces to lift.

Some of its advantages are as follows: The lower end of the comb basket shaft does *not* revolve in the honey below, even when 60 or 70 lbs. may be there!

The Comb Basket having vertical sides, insures the extracting power alike for top and bottom of frames.

An over-motion and strong gearing is essential to both *ease* of operation and *effective* work.

The handles are strong and attached near the centre, for ease in carrying.

The tin covers close the machine up tightly, keeping it free from dust and dirt when not in use.

It is provided with a small comb-holder for extracting pieces of comb or partly-filled sections.

It has a strainer elevated some three inches above the bottom of the extractor, and entirely covering the canal leading to the honey-gate. This "strainer" can be instantly removed, cleaned and replaced.

The honey receptacle has capacity for 60 or 70 lbs of honey, where it may be allowed to ripen before drawing off, if desired.

THE EXCELSIOR HONEY EXTRACTOR combines all the advantages of other Extractors, and is the *cheapest* thoroughly practical machine ever yet made.

The Comb Basket of this Extractor is made to take either two or three combs, and either will be furnished at the same **Price, $12.00,** crated and delivered at railroad depot or express office.

C. C. COFFINBERRY, Chicago.

1879. 1879.

Italian Queens, Nuclei and Colonies,

Bred and reared in full strong Colonies. Queens and Drones from selected mothers.

Single Queen, Tested	$2 00
Single Queen (laying), Untested	1 00

On all orders for 10 or more Queens I will pay express charges, except to States west of Rocky Mountains.

1 Langstroth frame Nucleus	$2 00
2 " " "	2 50
3 " " "	3 00
8 " " Colony	6 00

Nuclei and Colonies in nice white pine hives. One Dollar more when containing Tested Queen. Send money by P. O. Order or Registered Letter.

Orders promptly filled and safe arrival guaranteed.

Address, W. P. HENDERSON,
Murfreesboro, Tenn.
3-6

FANCY POULTRY to EXCHANGE for ITALIAN QUEENS.—We will exchange eggs of Dark Brahmas, P. Cochins, Houdans and Br. Leghorns (all prize strains), for good Tested Queens—13 eggs for each Queen—100 wanted. Eggs and Queens for sale. Address J. T. SCOTT & BRO., Prop'rs "Old Chickamauga" Poultry Yards, Crawfish Springs, Walker Co., Ga

READY FOR BUSINESS!

We are glad to inform our friends that our new shop is now arranged and we are ready for business. Our facilities are unsurpassed for doing good work cheaply and quickly.

OUR NEW MONTHLY,

The Bee-Keepers' Exchange,

is already popular, and its success is established. Its low price—75c. per year—brings it within the reach of all, and we propose to make it so useful and entertaining that no bee-keeper can afford to be without it. Sample copy free.

COMB FOUNDATION,

DRONE OR WORKER CELLS.

We wish our friends to realize that we are absolutely HEADQUARTERS for Comb Foundation. We produce the most and best Comb Foundation of any one in the United States. We have testimonials from many who have tried different manufacturers, and our Foundation is pronounced the best. We now have over 9,000 lbs. of wax on hand that we paid a round price for, as we buy the best that can be obtained, and have it selected especially for us.

PRICES FOR 1879.

If we supply Foundation in odd quantities, or if cut to any size wanted, prices will be

1 to 25 pounds, per pound	55c
25 to 50 " "	53c.
50 to 100 " "	52c.
100 to 500 " "	50c.
500 to 1000 " "	48c.
1000 pounds or more	45c.

If we get orders for foundation in 5, 10, 15, 25, 50 or 100 lb. boxes, of 8x16½ or 12x21 size, we will allow 10 per cent. discount from above prices. The above quotations are for the old style or lozenge-shaped cells.

FLAT-BOTTOMED FOUNDATION,

is a grand success. The thin, without wire, is warranted to average ten square feet to the pound, and will not leave a "fish-bone" in box honey. It is too thin for the brood-nest. The flat-bottomed foundation, with wire incorporated, will average six square feet to the pound, and absolutely prevents all sagging, and can be given to large swarms, or can be handled very roughly after it is built out. Flat bottoms are not an experiment, but have been thoroughly tested. The bees accept this foundation just as fast as they do the old style.

We hereby inform the public, that the wired foundation is subject to two patents, and the thin flat-bottomed is subject to one patent. We have full privilege to make and sell this foundation, and shall handle it in large quantities.

We propose to keep the wired foundation in stock in following sizes: Sheets are 10x16, 10x18¼, 8½x16½, 10½x14, 11¾x12, and 12x19.

The new thin, for boxes, will be kept in sheets 12x12. Both kinds will be sold at following prices:

I to 25 pounds, per pound	70c.
25 to 50 " "	68c.
50 to 100 " "	67c.
100 to 500 " "	65c.
500 to 1000 " "	63c.
1000 pounds or more, "	60c.

HONEY BOXES.

Probably no one in the United States has better facilities than we, for making boxes rapidly and neatly. We can turn out 100,000 boxes a month without difficulty. Our specialty is the Prize and Novice, or 4¼x4¼ dovetailed box. These we will keep in stock. We plane all our boxes on the edges and on one side, and guarantee the work to be first class in every particular. Our aim is to "EXCEL," not under-sell. Send for our samples before you purchase.

PRICES FOR 1879.

Prize boxes to take 5x6 glass, either tall or low:

Per 1,000 boxes	$6 50
Per 5,000 boxes	31 25
Per 10,000 boxes	58 00

Parties must be very particular to give exact outside dimensions of their boxes, when they order.

Dovetailed sections 4¼x4¼ will be supplied at exactly same prices as above.

For prices of everything needed in the Apiary, send for our new price-list, just out. Address,

4-tf **J. H. NELLIS**, Canajoharie, N. Y,

NEW, RARE OR CHOICE.

To Farmers and Gardeners.—I offer the following NEW, RARE OR EXTRA CHOICE Vegetable Seed, postage paid by me:

Marblehead Early Sweet Corn.—Decidedly the earliest of all varieties of sweet corn. Per package, 15 cents.

Egyptian Sweet Corn.—Decidedly the sweetest of all varieties of white sweet corn. Per package, 10 cents; per pound, 35 cents.

Marblehead Mammoth Sweet Corn.—The largest of all varieties, and the earliest of the extra large kinds. Per package, 15 cents; per pint, 33 cts.

Longfellow's Yellow Field Corn.—Kernels and ears extra large, not suited to the South. Per package, 10 cents; per quart, 55 cents.

Early Amber Sugar Cane.—Samples of the sugar, and full instructions for cultivation and making of sugar, sent with each lot. Per quarter pound, 16 cents; per pound, 45 cents.

Bastian's Early Blood Turnip Beet.—The best of the earlies; a great acquisition. Per ounce, 12 cents; per pound, $1.25.

Hancock Early Peas.—The best cropper, and purest of all the extra early sorts. Per package, 10 cents; per quart, 60 cents.

Tailby's Cucumber. Large, very handsome and very prolific. A prize for any garden. Per package, 15 cents; per ounce, 35 cents.

Marblehead Champion Pole Beans.—15 cts. per package. The earliest of all varieties.

Kentucky Wonder Beans.—15 cents per package. Compared with scores of varieties, they have proved the most prolific.

Butman Squash.—20 cents per ounce; 10 cents per package.

Marblehead Squash.—20 cents per ounce; 10 cents per package.

Hubbard Squash.—20 cents per ounce.

As the original introducer of these three splendid winter varieties, I offer seed grown specially for purity.

Cocoanut Squash.—10 cents per package; 30 cts. per ounce. Excellent in quality and an elegant ornament for the parlor. Very prolific.

Danvers Carrot.—$1.50 per pound; 15 cents per ounce. Forty tons have been raised to the acre.

Sill's Melon.—A Canteloupe; sweet, spicy, delicious. Per ounce, 20 cents.

Vick's Early.—20 cents per ounce; 10 cents per package. The best of all the early Water Melons.

Excelsior Melon.—25 cents per ounce; 10 cents per package. Has been raised in Massachusetts to weigh 75 pounds. Quality excellent.

White Egg Turnip.—The new American turnip. Early, large and of excellent quality. Per oz., 15 cts.

My Seed Catalogue, treating of all the above varieties in detail, and an immense collection of Vegetable and Flower Seed, will be sent **free** to all who write for it. J. J. H. GREGORY, Marblehead, Mass.

SOMETHING NEW.

Scovell Valve Cut-Off Smoker.

The most complete thing in the smoker line out. The bellows has Scovell's Improved Top-Joint; the only valve about it is, by a simple arrangement, made to act as a cut-off for the draft; it is made of the best material; burns all kinds of fuel; has a perfect draft, and never sucks fire and ashes into the bellows. Size, 2¼ inches. Price, by mail, $1.15. Manufactured by H. SCOVELL, Columbus, Cherokee Co., Kan.

Still they Come!

Another supply dealer to the front! with prices extremely low; quality of goods and workmanship excellent. Send postal card for prices of Langstroth Standard and other Hives, Frames, Tin Separators, Glass for Boxes, &c. Address,

W. D. WRIGHT, Knowersville, Albany Co., N. Y.

ITALIAN BEES FOR SALE.

I will sell after April 1st to June 15th, 3-frame nuclei, with Tested Queen, $4.00; each additional frame with bees and brood, 50c. Single tested Queen, $2.50. All Queens are reared in full colonies.

JULIUS HOFFMAN, Fort Plain, Mont. Co., N. Y.

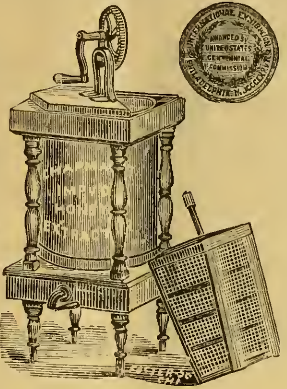
Comb Foundation,

ANY SIZE, AT FIFTY CENTS PER POUND.

F. J. FARR, Independence, Mo.

CHAPMAN'S

HONEY EXTRACTOR.



The Centennial Medal and Diploma awarded to this Extractor.

It is a geared machine with a stationary Can, and is easy to operate, strong and substantial.

The thinnest and most elastic curve - pointed HONEY KNIFE made, furnished with Extractors.

The best machine made, tight cover, faucet, and curved pointed knife, for $10.00—any sized frame. Send orders with size of frame, to

FRANK W. CHAPMAN, Morrison, Ill.,
Or AMERICAN BEE JOURNAL Office.

The American Young Folks

In its 5th year, an *Illustrated 16-Page Paper for Boys and Girls, Published by*

HUDSON & EWING, TOPEKA, KANSAS.

Over 10,000 Teachers of Public Schools, from Pa. to Cal., pronounce it the best and cheapest paper for Boys and Girls. It is pure and elevating in character, bright, instructive and interesting. Sent postage paid, one year, to any address for 50c. Sample copy free.

SPERRY & CHANDLER'S

NORTH STAR HIVE.

There are now over 1,000 of these Hives in use in different parts of the United States, and wherever tried they are pronounced the best Hives before the public for all general and special purposes. We are now prepared to promptly fill all orders for the North Star, or Improved Langstroth, with our patent Manipulating Side. Samples of surplus honey taken from the North Star, as also our hives in use, may be seen at the American Bee Journal office. Send for illustrated circular—correspondence solicited.

Address SPERRY & CHANDLER,
974 W. Madison Street,
Or AMERICAN BEE JOURNAL, Chicago, Ill. 8-tf

GEORGE GRIMM,

OF

JEFFERSON, WISCONSIN,

hereby respectfully gives notice to the public, that his Circular and Price-List of Italian Bees for the year 1878-9, is ready, and that he is selling at his usual *low* prices. 10-6

Foundation Machines.

12 inches wide.... ....$40 00
9 inches wide......................... 30 00
6 inches wide............ .. .. 25 00

Every machine warranted. On receipt of 10 cents, I will send a sample of the foundation made by the machine.

12-tf JOHN BOURGMEYER, Fond du Lac, Wis.

IF YOU WANT

Supplies for the Apiary, send for our price-list before making your purchases for 1879. If you want

Comb Foundation of Best Quality,

and for **less money** than heretofore, send for our price-list and learn how 'tis done. We sell **GLASS** for honey-boxes,

Tin Separators, Bee-Smokers, Honey Extractors, Wax Extractors, Honey Knives, Prize Boxes, Sections, Bee Hives, Comb Foundation,

and many other things, all at **astonishingly low prices.**

Italian Queens, Nucleus Colonies and Full Colonies of Italian Bees,

of the CHOICEST STOCK in the country, will be furnished in any quantity, at the lowest living prices. Our CIRCULAR contains much valuable information, and tells you the **best methods** of introducing queens, artificial swarming, how to secure the

MOST SURPLUS HONEY,

and how to obtain the HIGHEST PRICE for the same. Our arrangements are such that we shall be

HEADQUARTERS

for apiarian supplies during 1879. If you have any doubts on this point, just send us your name on a postal card, and our circular will be forthcoming, showing you how to SAVE MONEY in buying supplies.

Our Motto: The Best Goods at the Lowest Prices.

Address, **HERBERT A. BURCH & CO.,**
1-tf South Haven, Mich.

Stabilimento D'Apicoltura

OF

PIETRO PILATI,

Strada Stefano 88, Bologna, Italy.

	April, May, June.	July, Aug.	Sept.,Oct.
1 Queen........	11.50 francs.	9 50 francs.	6 francs.
6 "	66 "	55 "	35 "
12 "	130 "	108 "	68 "

I guarantee purity, prolificness and safe arrival. Should any die *en route*, they will be replaced. The value of a franc is 18¾ cents in gold. I solicit American orders.

CLETHRA ALNIFOLIA,

(*Or, SWEET PEPPER*),

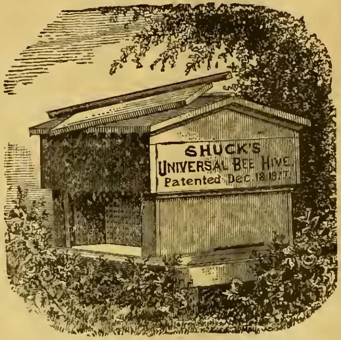
FOR BEE PASTURE.

Always known to be good by the Bees, but recently admitted to be the best by MAN. The honey is white, thick and very sweet. Perfectly hardy, blooms at 1 to 8 feet high, from July to Sept., when other flowers are scarce; grows where corn or the hazel-bush will; transplants safely in this latitude in April and May, or from October to December.

PRICES—Small layers, 6 to 12 inches long, by mail, $1.50 per doz., or $10.00 per 100; or blooming plants, 3 for $1.00, or 12 for $3.00. By express, for strong layers and blooming plants, $3.00 per doz., $10.00 per 100, or $50.00 per 1,000. Remit by bank check on some Boston bank, postal order on postmaster at Boston, or registered letter. Illustrated Circular and Reading Nursery Catalogue free by mail. Address,

3-4 JACOB W. MANNING, Reading, Mass.

SHUCK'S UNIVERSAL BEE HIVE.



Claims the Attention of every one engaged or interested in Bees.

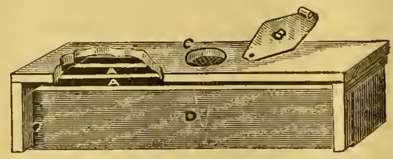
THE HIVE

Is devised by a practical bee-keeper for PROFITABLE use ; double walls, with either dead air space or chaff packing ; inside walls are porous, allowing all moisture to escape from the brood chamber, keeping it perfectly dry, sweet and wholesome, even with unsealed stores ; both sides are removable ; frames hung upon metal supports on the top of the end walls (not in rabbets) and are easily handled ; brood chamber large or small, as desired, and may be as complete with one frame as with a dozen ; space for 96 pounds surplus honey within six inches of the brood nest. No colony need be lost during the winter months in this hive. No melting combs in this hive during the hot weather. Positively

THE BEST HIVE BEFORE THE PUBLIC.

APIARY RIGHTS, $5.00. TERRITORIAL RIGHTS FOR SALE ON EASY TERMS.

SHUCK'S BOSS BEE FEEDER,



Patented June 11, 1878,

Removes all the obstacles in the way of feeding, by its simplicity, cheapness, and its adaptability to the purposes required. It is to be placed at the entrance outside the hive, and supplied with sugar syrup, or syrup and flour any time in the day, without annoyance from bees, either to the bee-keeper or the colony being fed ; no bees can reach the food except from the inside of the hive. Every bee-keeper appreciates the advantage of feeding to supply short stores for the colony, or to stimulate and encourage breeding, previous to an expected flow of honey.

Prof. A. J. Cook says : "I think very highly of your feeder, and only find fault with the price."

G. M. Doolittle says : "You are just a shouting when you say, 'I trust my Boss Bee Feeder will please you.' It is the best bee-feeder I ever saw, in ease of feeding, simplicity and for general use. When I see a good thing I like to say so. It is worth no less because it is patented."

D. D. Palmer says : "I received your Boss Bee Feeder and would say of it, that I like it better than any I ever saw ; in fact, it seems to be all that could be desired. It is all you claim for it, being so convenient to get at, and being so readily filled without disturbing the bees or being to the trouble of taking off the cover."

SAMPLE, BY MAIL, 30 CENTS.

Address, J. M. SHUCK,
DES MOINES, IOWA.

THE AMERICAN
BEE JOURNAL
Devoted Exclusively to Bee Culture.

VOL. XV. CHICAGO, ILLINOIS, MAY, 1879. No. 5.

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Editor's Table.

☞ The editor of the BEE JOURNAL was confined to his home by a severe illness during the major part of last month. Constant inquiries from friends all over the country who were aware of it, came to the office daily; and when convalescing, these were a source of much consolation to him. His thanks are now tendered to all such with the announcement of a full recovery. Pneumonia and diphtheria, the latter in its most malignant form, caused the trouble.

☞ We regret to say that Mr. James Heddon and Mr. G. M. Doolittle, have both suffered from severe illness during the past month. The BEE JOURNAL extends its condolence.

☞ G. V. Lamoreaux asks if it will do to give bees frames of honey that are candied. Certainly, if the bees can avail themselves of water. Combs of honey that have been smeared by bees having had the dysentery may be given to other colonies without damage. The bees will clean them.

☞ We have received at our Museum a *new* Honey Extractor, as made by friend Muth, of Cincinnati, for this season's trade. It is improved and strengthened in many particulars, and is a good machine. Mr. Muth, is an honorable and conscientious dealer, and deserves the confidence and high esteem in which he is held by bee-keepers.

☞ We have received samples of the new Dunham comb foundation which are very nice. The side walls are high and very evenly raised. It is sold at the same price as the ordinary make of foundation—and can be obtained in quantity at this office.

Laws Against Adulteration.

As Congress has neglected to pass a general law against adulteration of sweets, it it is gratifying to note that several State Legislatures have passed laws against the adulteration of honey.

Kentucky has for some time had such a law, and now New Jersey, Minnesota and Michigan are added to the number.

Minnesota has four apiarists in its Legislature. The Hon. J. P. West introduced the following bill which has now become a law. The Hons. H. H. Rosebrock, Parker and Demo (all apiarists) did noble work in aiding its passage. The Rev. James G. Teter, we understand, framed the law.

AN ACT to prevent the sale of adulterated honey.

Be it enacted by the Legislature of the State of Minnesota:

Section 1. It shall be unlawful for any person or persons within the State of Minnesota to offer for sale, sell, or cause to be sold any compounded or manufactured honey, unless the same is so marked, represented and designated as such, and bearing a label upon each package either printed or written thereon, the name of the person or persons having compounded or manufactured the same.

Sec. 2. Any person violating the provisions of section one (1) of this act shall, for the first offence, be fined in any sum not less than ten, nor more than one hundred dollars, and for each repeated offence shall be fined not less than fifty, nor more than two hundred and fifty dollars, or be imprisoned in the county jail for a period not exceeding six months, or both, at the discretion of the court.

Sec. 3. This act shall take effect and be in force from and after its passage.

Approved March 10, 1879.

The Hon. J. P. West introduced a joint resolution memorializing Congress for a bill on the subject, the following being the substance thereof:

That the sweets now in use in the United States, including cane-sugar, syrups, candies, jellies, honey, etc., are often adulterated with glucose, and sometimes are manufactured entirely of it;

That this glucose is manufactured from corn starch, by boiling the starch with sulphuric acid (oil of vitriol), then mixing with lime. The glucose always retains more or less of sulphuric acid and lime, and sometimes it has copperas, sucrate of lime, etc.;

That seventeen specimens of common table syrups were recently examined by R. C. Kedzie, A. M., professor of chemistry in the Michigan State Agricultural College, at Lansing. Fifteen of these proved to be made of glucose; one of the fifteen contained 141 grains of sulphuric acid (oil of vitriol) and 724 grains of lime to the gallon; and another, which had caused serious sickness in a whole family, contained 72 grains of sulphuric acid, 28 grains of sulphate of iron (copperas), and 363 grains of lime to the gallon;

That the American people are pre-eminently a sugar-eating people. The consumption of sugar by each individual in our country is shown by statistics to be about 40 pounds a year. It is seen at once that the adulterators of sugars and other sweets not only cheat our people in the quality of what they consume, since glucose contains only from 30 to 40 per cent of sugar, but injure also the public health by selling under false names an article injurious to health;

And, Whereas, Tea, coffee, etc., and numerous articles of food are adulterated by poisons and articles injurious to health;

Resolved, That our senators and representatives in Congress be requested to use their influence to secure the passage of such laws as are necessary for the suppression of this illegal business and to protect the people against such crimes.

The Hon. A. B. Cheney, President of the Mich. Bee-Keepers' Association, has introduced into the Legislature a bill to prevent the adulteration of honey. We are not fully advised as to the provisions of the bill, but have no doubt it embodies the wisdom and wishes of the leading apiarists of the State.

Mr. A. J. King, editor of the "Bee-Keepers Magazine," has kindly sent us the copy of the New Jersey law, which was drawn up by the Rev. James W. Shearer. Mr. King correctly remarks that it is "the best of any similar law passed in any State," and adds, "If we can get such laws passed in all the States, what will become of the adulterators?" Bro. King and the *Magazine* are squarely opposed to adulteration and we are glad here to acknowledge "the good work" they have done in aiding this cause.

The New Jersey Law is as follows:

AN ACT to protect the honey industry.

Whereas, The production of honey is an honest and honorable industry of respectable and fast growing importance in this state, the entire proceeds of which is clear gain to the state; *and whereas*, adulterations with inferior sweets, not gathered by bees, are manufactured and sold under the name of honey, to the great injury of the industry and to the deception of the consumer, if not to the injury of his health, therefore:

1. *Be it enacted by the Senate and General Assembly of the State of New Jersey*, That every person or persons who shall manufacture, sell or cause to be sold any article or substance having the semblance of honey, and yet not the real product of the hive, whether in shape of liquid or comb honey, shall to each package or vessel of such manufactured article or substance,

affix on the outside the package in a conspicuous place, a distinct printed or written label or brand stating that it is a mixture, and naming the constituent elements used, whether glucose, grape sugar or other adulterant; and every sale of such article or substance not so branded, marked or labeled is declared to be unlawful, and no action shall be maintained in any of the courts of this state to recover upon any contract for the sale of any such article or substance not so branded, marked or labeled.

2. *And be it enacted*, That every person who shall knowingly sell, or offer to sell, or have in his or her possession with intent to sell, contrary to the provision of this act, any of the said article or substance required by the first section of this act to be branded, marked or labeled, as therein stated, not so branded, marked or labeled, shall for each such offence forfeit and pay a fine of one hundred dollars, to be recovered with costs in any of the courts of this state having cognizance thereof, in an action to be prosecuted by the district attorney in the name of the people, and the one-half of such recovery shall be paid to the informer and the residue shall be applied to the support of the poor in the county where such recovery is had.

3. *And be it enacted*, That every person who shall knowingly sell, or offer, or expose for sale, or who shall cause or procure to be sold, or offered or exposed for sale any article or substance required by the first section of this act to be branded, marked or labeled, not so branded, marked or labeled, shall be guilty of a misdemeanor, and on trial for such misdemeanor, proof of the sale, or offer or exposure alleged, shall be presumptive evidence of knowledge of the character of the article so sold or offered, and that the same was not branded, marked or labeled as required by this act.

4. *And be it enacted*, That this act shall take effect immediately.

The Culture of Buckwheat.

Mr. S. D. McLean desired us to give in the BEE JOURNAL information concerning Buckwheat as a honey-producer; its planting, harvesting and care. Prof. Cook kindly furnishes the following on the subject:

Buckwheat is valuable as a honey plant, as it can be made to bloom when there would otherwise be a dearth of flowers. We have found in our experimental beds that the Silver Hull variety has more flowers in the panicles, and yields more to the acre. The honey is dark, but is preferred to all other kinds by some people. It blooms from four to six weeks after sowing.

It will do fairly well on any soil, but thrives best on a rich soil. It should be sowed broadcast, three pecks to the acre. It is usually sown here late in July, but for bees it had better be sown early in June. Then it will bloom about the middle of July, when bloom is usually absent, and will, I think, yield just as well; though I judge simply from observing small plats. The cultivation before sowing should be deep and thorough.

When ripe it is cut and allowed to lie on the ground to dry. When dry it is bound and drawn to the barn, where it may be threshed at once, if it is desirable to do so.

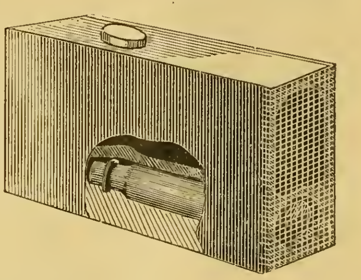
In fact, the cultivation, soil and harvesting of buckwheat are much the same as that given to oats.

I think Mr. A. I. Root is safe in estimating that each acre of buckwheat sowed within 1½ miles of his apiary is worth $100 to him. If sowed so as to cover an absence of bloom, I think he may make the estimate larger.

Buckwheat, like other plants, is capricious. Some seasons it yields but little honey. It is not a favorite of bees; at least I have known bees to leave it for other plants. Perhaps it contained no nectar at the time.
A. J. COOK.

HOLLOM'S QUEEN CAGE.—This cage has been received in our museum. Mr. Hollom's description of it is as follows:

It is sawed out of a strip of board, 1⅛ inches thick, 2⅛ inches broad by 3 inches long, with 3 holes bored in the end, almost through, at which end the candy is put in as food for the queen. It has a drachm phial of water, placed in a hole, which can be taken out by a wire around the neck of the bottle, for refilling. The hole in the edge is used for introducing queens. Rub together two thin pieces of newspaper and press in the hole with the finger and the bees will gnaw it out in about 24 hours or so. It can be used as a lamp nursery for hatching queens, and keeping queens on hand any length of time. To hatch queens take a queen-cell and insert it in the hole at the edge, provision it and insert also several bees, then place them between the frames of a colony. This will keep the bees quiet, and they will care for the queen-cells. Several cages may be placed in a frame, with a few strips of wood or wire to keep them in place, hanging in the hive.



☞ We have received Mr. L. C. Root's Circular for 1879. It is nicely printed and illustrated, and contains many useful hints. Mr. Root is a careful and practical apiarist whose opinions are respected by many bee-keepers all over the country. He is the son-in-law of the late M. Quinby, whose book he has re-written and published. We have not seen it yet, but shall notice when received.

The National Association.

It is desired by the Executive Committee to make the next meeting of this Society, to be held in Chicago next fall, the best that has ever been held. To this end, the committee solicits the co-operation of the most experienced apiarists in America. Those who desire to have points of interest discussed should indicate them in this month, so that the necessary arrangements may be made to assign topics to leading scientific and practical men, to introduce by short but pithy papers or speeches. Communications with suggestions may be sent to any member of the committee, viz: Thomas G. Newman; Prof. J. Hasbrouck; Dr. Emrich Parmly or E. J. Oatman.

The President is in receipt of the following communications:

CHILLICOTHE, Mo., April 1, 1879.
FRIEND NEWMAN.—I find it will be impossible for me to attend to the interests of the National Association in my State; and therefore must ask to be relieved. When one man runs a dental practice, a County Treasurer's office and an Apiary, and responds to the thousand-and-one little requirements that continually come up in business and social life, doing the work all himself, he has but little leisure time. I have hardly the time to take account of time as it passes. I hope you can find some one who can do more for the profession in Missouri. J. W. GREENE.

Wilmington, N. C., April 7, 1879.
THOMAS G. NEWMAN, ESQ., President N. A. B. K. A., Chicago, Ill. DEAR FRIEND: —I deeply regret to herewith tender my resignation of Vice President, State of North Carolina, bee-keepers' association, for reasons explained to you last month. I would respectfully suggest Capt. Frank M. Wooten, of this county, to fill the vacancy. Capt. Wooten is a gentleman and has a magnificent farm for bee culture; believes in all the modern improvements; is well read upon the subject, and will in my opinion reflect credit upon the bee-keeping interests of North Carolina. He of course reads the AMERICAN BEE JOURNAL—the very best bee paper in America. R. C. TAYLOR.

New Orleans, La., April 15, 1879.
MR. THOMAS G. NEWMAN, Dear Sir:—As I have sold out my bees to Mr. Viallon, and will leave shortly for California with a view of locating there, I shall not be able to act as Vice President for Louisiana, and write this to suggest that you appoint Mr. John M. Putnam, of New Orleans, in my stead. Mr. Putnam has a large number of oolonies near this city and will be a good man for the place. WM. H. WARE.

And as it becomes the duty of the President to fill all vacancies occurring during the current year, he makes the following appointments:

We are sorry Dr. Greene is so full of business, and as we must excuse him we have appointed Mr. P. P. Collier of Benton City, Mo., as Vice-President for Missouri, to fill the vacancy, who will attend to the interests of bee-keepers in that State.

As Mr. Taylor is compelled, against his will, to discontinue bee-keeping, and on the same account is obliged to decline the honor and duties of Vice President of the National Association for North Carolina, we accept the resignation and appoint to fill the vacancy, Capt. Frank M. Wooten, as suggested.

As Mr. Wm. H. Ware is leaving the State of Louisiana, and resigns the office of Vice President, we appoint Mr. John M. Putnam to fill the vacancy as suggested.

We hope these gentlemen will at once assume their duties, and look after the interests of the bee-keepers in their respective States.

Cook's Manual in Europe.

It is exceecingly gratifying to notice the very favorable notices which this excellent work is receiving not only in America but also in Europe.

The *British Bee Journal* says of it:

"Cook's new 'Manual of the Apiary,' just published, comes with high encomiums from America; we have just received it, and certainly it appears to have cut the ground from under future book makers, for sometime to come."

L'Abbe L. DuBois, at LaMalmaison Aisne, France, on March 31, 1879, writes: "I have read with a great deal of interest the copy of Cook's Manual you sent me, and I intend to publish extracts from it in the "Bulletin" of the Society of Apiculture of the Department of the Somme, so that our apiarists may be aware of the value of this estimable work. It is a credit to the author as well as the publishers. I have never yet met with a work, either French or foreign, which I like so much."

During the past year Prof. A. J. Cook has re-published his "Manual of the Apiary." This book, so esteemed, contains—besides the description of the anatomy and physiology of the honey bee, beautifully illustrated, the products and races of the bees, honey plants—the instructions for the different operations performed in the hives. All agree that it is the work of a Master, and is of real value.—*L'Apiculteur*, Paris.

Epidemics Among Insects.

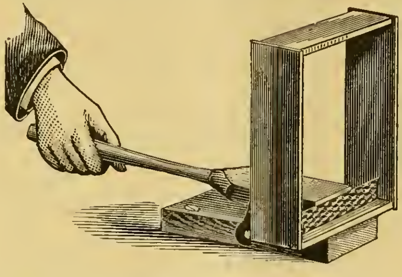
Dr. Hazen of Boston, in a paper read in that city a few days ago, gave the following information about epidemics among insects: That excellent apiarist, Dr. Parmly, of New York, remarks, "We have far more need to study carefully these innumerable little foes than we have done." Dr. Hazen says:

> A really pestilential epizootic of the common barnyard fly was observed in 1867. Not only those, but many other insects, died in the same locality and in the same manner; also other species of flies and gnats, the caterpillars of moths and of phalænids, and the common hairy caterpillars. Of some species the destruction was so complete that the next year they were very rare. During recent years the caterpillars of two species of moths had destroyed pine forests belonging to the State valued at several millions of dollars, and a larger calamity was imminent, when suddenly all caterpillars died from the same fungus. Similar observations have been made in other places in Europe and here.
>
> Mr. Trouvelot formerly began in Medford, Mass., the raising of the polyphemus moth for silk, and was successful enough to get a prize in the Paris Exhibition of 1864. Unfortunately he brought home eggs from Paris of another species from China, which purported to be superior for silk-raising in the open air. These eggs proved to be infested by fungus, and the caterpillars hatched from them died, but not those alone, all caterpillars of the polyphemus moth became infested, and even most of the other indigenous species living on the twelve acres of shrub land, which Mr. Trouvelot utilized for this purpose, died rapidly. After two years of a similar calamity, Mr. Trouvelot was obliged to stop his experiments, which might have developed, perhaps, a new source of wealth for this country.
>
> A similar pest of an indigenous species of moth stopped only last year the interesting observations of Mr. Tiemers, in Newport, Kentucky.
>
> The common silk-worm in Europe has been in recent time extensively affected by a sickness which is also the consequence of a fungus. Similar fatal epizootics have been observed on the *honey-bee* and one several years ago, in Brazil, destroyed nearly all the bees. In entomological journals are reported fatal epizootics of leaf lice, of grasshoppers, of the cabbage butterfly and of the currant worm, both imported here only a few years ago, and both very obnoxious.

During the past winter the mortality among the bees has been very great, similar to the disasters of 1873-4. May it not be attributable to causes similar to those mentioned above? This seems the more probable from the fact that no matter how the bees were prepared for winter—whether packed with chaff or not—whether they were buried in clamps or kept on their summer stands—no particular mode of preparation was successful in all cases! some of our most experienced apiarists having suffered losses as well as the inexperienced! "Our Letter Box" gives abundant proof of this. We may blame the honey stored for winter use, the kind of hive used, the manner of ventilation adopted, the severe weather, the long winter, the unfavorably cold spring, the manner of preparation, the winter repository, or the locality of the apiary—but none of these present us, as yet, the solution of the problem! If it has been a "pestilential epizootic." it certainly has been one in the most malignant form.

◆

☞ The machine for fastening starters as noticed on page 150 of our last issue, is a neat little implement. The accompanying engraving shows it "caught in the act" of fastening the starter to the top-bar of the section. It is gotten up by Mr. W. D. Parker, of Defiance, Ohio.



◆

☞ We have agreed to attend the convention of the Western Illinois and Eastern Iowa Bee-keepers' Society, to be held at Hamilton on the 6th and 7th of May. Hamilton is the home of our friends Dadant, and is situated on the Toledo, Peoria & Warsaw Railway, which is the great east and west thoroughfare from Keokuk or Burlington to Lafayette, Fort Wayne, Toledo, and the great eastern cities, making only one change of cars necessary to Washington, Baltimore, Philadelphia, New York or Boston. Elegant reclining chair sleeping cars are run through to Lafayette and Indianapolis, and palace day coaches to Fort Wayne and Toledo. Connections are made at each of these points with through sleeping cars to the East. Boston and New England passengers can step into Boston sleeping car without leaving the train, making virtually no change to Boston, and arrive at destination one train in advance of Chicago routes.

America's Represntative to Europe.

The "North American Bee-Keepers' Society," at its last annual meeting, appointed the President of the Society as its Representative to attend the meetings of the different Bee Conventions and Honey Shows to be held during this summer in Europe, to officially represent the bee-keepers of North America, and aid in establishing a bond of union that may be universal in its adaptation and world-wide in its effect.

In accordance with this action of the National Association, health and circumstances permitting, we shall start on this mission in June, arriving in London about July 1st, in time to attend the London Exhibition of the Royal Agricultural Society of England (June 30th to July 7th, 1879). At this Exhibition, the British Bee-Keepers' Society offer £25 as prizes for hives, surplus honey and manipulation with bees.

We are informed by the Rev. Herbert R. Peel, Hon. Secretary of the British Bee-Keepers' Society, that another Exhibition will be held during July at South Kensington. If possible, we shall arrange to attend this also, as well as some of the County Associations occurring about that time.

We intend going to France about August 1st, but as yet are not advised definitely of the arrangements made by Mons. Hamet, editor of *L'Apiculteur*, and Mons. Delinotte, Secretary of the "Societe Centrale d'Apiculteur." These gentlemen assure us a hearty welcome.

We shall visit the Switzerland, Italy, Austria and Denmark, but cannot now state the definite arrangements.

It is extremly gratifying to notice the enthusiasm with which our visit is hailed by the apiarists of Europe, as will be seen by the following:

Herr R. Mayerhœffer, editor of the "Austrian Bienen Zeitung," on March 31, 1879, writes: "More than all I rejoice in the anticipation of the pleasure of welcoming you in person at Prague, at the meeting of the German and Austrian Congress, which will be held here from the 7th to the 11th of September next. I will do all in my power to make your visit as agreeable as possible."

C. N. Abbott, Esq., editor of the "British Bee Journal," writes, "Your proposed visit I am sure will be fully appreciated by all here as a great honour. Individually I shall be most happy to see you." In the "British Bee Journal" the editor says:

> "It will be flattering and pleasing to the brotherhood of British bee-keepers to know that the distinguished editor of the American Bee Journal has been appointed by the North American Bee-Keepers' Association to visit this country, to attend the various bee and honey shows which will take place during the ensuing summer, with a view to establishing similar institutions on the other side of the Atlantic. * * * They (the associations) will spare no pains to make their shows worthy the compliment implied. America has shown us that there is a market for honey in Great Britain, and we must try and show her Representative our best method of stimulating bee-culture."

C. J. H. Gravenhorst, Esq., well-known as an eminent apiarist of Germany remarks: "And now, Mr. Editor, let me tell you how very glad the German and Austrian bee-keepers will be, to have the great pleasure of meeting you at their 24th Congress at Prague; to welcome a man who is not only the delegate of the American bee-keepers, but one who has labored so assiduously for the progress of bee keeping."

We intend to take with us some models and a few of the most approved American implements for the apiary to exhibit to our friends on the other side of the Atlantic Ocean.

Sections.—Dr. J. W. Greene remarks: "I have had some two-comb sections made of ¼ inch stuff, tops, sides and bottoms; can I hold them together as a box with rubber bands?" We reply that we very much prefer to have sections nailed. They may be held together with rubber bands, but their only strength will be the propolis used by the bees. Those sections all in one piece and glued at the corners, are strong and nice. They are illustrated on another page.

☞ The editor of the Bee Journal intends to be present at the Conventions of the "Southern" and "Central" Kentucky Associations, to be held early in this month, and hopes to meet many of the bee-keepers of "old Kentucky."

Abnormal Swarming.

By reference to "Our Letter Box" as published in this issue of the JOURNAL, it will be seen that several cases have occurred of bees deserting their hives, often "leaving for parts unknown," but sometimes trying to unite with other colonies in the same yard, or going to a neighboring apiary and uniting with the bees there, or trying to do so.

A similar case is reported in the "British Bee Journal" for April, where a strong colony had deserted its hive leaving brood and honey in the hive. The editor enquires: "Can any one suggest a reason for the sudden elopement, or must it be considered a freak?"

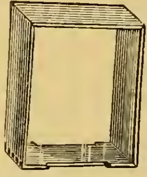
Mr. G. M. Doolittle, in Gleanings, Vol. 3, page 68, spoke of a "case of bees swarming out, leaving the hive with nice clean combs, plenty of honey, brood and pollen," and asked, "Can any one give a satisfactory reason for such proceedings?" As no one has answered this query, Mr. Doolittle says:

> I still believe that certain actions of bees at certain times are beyond the knowledge of apiarists at present, if they would only frankly admit the truth. A cold hard winter and spring, like the past, seems conductive of such a state of affairs. The bees seemingly become discouraged and leave their hives, going to other colonies hoping to better their condition, but only to perish as a general rule.

Mr. E. J. Oatman suggests that the absconding might have been caused by short stores, or the effect of close confinement by cold for a time, after brood-rearing had begun. Under these circumstances we have seen them leave the hive for a *sport*, and keep this sporting up to such an extent as to produce an excitement among all hands inside, which would terminate in a *grand dance* and all run away, and this even has happened with populous colonies well stocked with honey, brood, and everything necessary to a normal condition, merely the result of over-excitement."

Prof. A. J. Cook remarks: "I have never had but one case of hive-desertion in the apiary, but have heard of many. This strange behavior seems more common after winters where dysentery has meted out death with an unsparing hand. The colony which tried desertion at our apiary was very weak, and fled in March from a hive foul with the effects of previous dysentery. They attempted to unite with another colony. I captured the queen, returned her and a goodly portion of the bees to a clean hive with clean combs, shut them in for a day, then commenced feeding. They accepted the changed conditions, and went to work with vigor. I presume that the inciting cause to this untimely truancy is, in all cases, an unwholesome condition of the hive. The usual cause is the intolerable stench arising from the abnormal discharges attendant upon dysentery. Anything else which serves to disturb, like the incursion of mice, ants, fungus growths or mould, will doubtless lead to this dangerous emigration. The practical course to be pursued by the bee-keeper is, to search out the disquieting agent, and put it to flight."

THE LEWIS SECTIONS.—These excellent sections "all in one piece," we should have noticed before, but for an oversight. Messrs. Lewis & Parks sent us some very nice samples in February. They are cut very accurately and dovetailed at the ends, and are so constructed as to bend around and lock together. When put together with glue they are not only neat but very strong.



The accompanying cut will give a good idea of them.—The 4¼x4¼ or "Novice section," and 6¼x5¼ the "Prize Box" are the reulgar sizes, though they can be made for any size. They are kept in stock at this office, and are sold at the same prices as the ordinary prize boxes.

PERFORATED ZINC.—We have received from Geo. Neighbour & Sons, of London, England, a piece of zinc with perforation ⅜ of an inch wide and ½ an inch long, being used by bee-keepers in England for the purpose of excluding the queen from the surplus receptacles. It is cut to fit the hives, and placed over the frames. Its cost is about 35 cents per square foot. In some cases it could be used to advantage, but will not be very generally adopted in this country.

☞ It is with pleasure that we note the improved appearance of the Bee-Keepers' *Instructor*, published by Mr. H. D. Riegel. The April number has a nice cover, and is much improved.

☞ Mr. Henry Alley, of Wenham, Mass., one of the oldest queen breeders and dealers in supplies, has sent his new circular to this office. It is very neat, and contains much that is interesting to bee-keepers everywhere. He remarks that over 1000 of them have been "called for" by bee-keepers since the new year commenced. In a letter dated April 21st, he remarks that he "never had so many orders for queens as up to this time," and that he has "only advertised in the AMERICAN BEE JOURNAL." Another straw showing the value of the A. B. J. as a medium of business communication.

☞ One of the *neatest* Price Lists of apiarian supplies we have received is that of W. D. Wright, Knowersville, N. Y. It contains a list of everything on the market, and quotes the lowest prices.

"THE BLESSED BEES," was written as a realistic fiction, not as a narrative of actual experience.

☞ On Comb Foundation the prices are ruling downward. Our rates may be found on the third page of cover.

☞ As Mr. J. A. Waterhouse, of Hamilton, Ont., has been called out West to embark in some extensive business with his brother. He has sold out his apiary supply and bee business to W. G. Walton, who will assume and fill all orders which are turned over to him.

☞ The April number of the Bee-Keepers' *Exchange*, edited and published by Mr. J. H. Nellis, is at hand. He makes a good paper, and the BEE JOURNAL wishes the enterprise success, as it does everything that is honorable and intended for the advancement of the science of bee culture.

☞ We would call particular attention to the advertisement of the "Bienen-Zeitung," published by Mr. R. Mayerhoeffer, in Prague, Austria. Some want a bee-paper in the German language and this will accommodate them. We expect to make arrangements to get them in bulk and mail them to American subscribers directly from this office. The price is only 60 cents per year. When clubbed with the AMERICAN BEE JOURNAL, $2.00 will pay for both.

GIVEN'S WIRED FOUNDATION.—Mr. Given has sent us more samples of his foundation and thinks the cracking by the wires was caused by the cold weather. That might have been a portion of the cause and the rough handling in transit may have been to blame, but we really prefer the wires to be bedded into the foundation and covered up with the wax. Mr. Given advertises the machine in this issue of the JOURNAL, and is fully persuaded that his invention is an entire success. We hope it may prove to be so.

☞ Mr. Weiss, the father of comb-foundation manufacturing in this country, called on us a few days ago. He has been sick and in the hospital in this city, but is now convalescent. He has been suffering with rheumatism. He desires to find some light employment in the apiary, being well posted in every department of the apiary, or in making comb-foundation. He owns his machine and if any one desires to make an arrangement with him, they may address him in care of Mr. H. Templeton, 213 Randolph St., Chicago.

☞ Mr. J. H. Nellis' Circular and Price List of supplies is at hand. It contains 16 pages, and gives full information concerning the articles enumerated.

☞ Mr. L. F. Cox, of Portage, Mich., has sent us his descriptive circular of the Colvin Hive, and also a sample of his honey rack and sections. The latter is made very light of berry-box material, and were it not now considered absolutely essential for successful marketing, to use separators, to have all the combs built straight, it would be a nice arrangement, as it is so light and may be cheaply made.

☞ Mr. Jas. Heddon desires to inquire for the address of the bee-keeper that sent him $12.00 last fall, to hold till this spring. The book containing the address was burned with his dwelling house last December.

Bee-Keepers' Conventions.

Southern Kentucky.

The Semi-Annual Meeting of this Association will be held on the first Friday and Saturday in May (2d and 3d), 1879, at Gainesville, Allen county. All who are in any way interested in bee-culture are invited to be present and co-operate. A full line of apiarian supplies will be on exhibition. Mr. Newman, President of the National Association, and editor of the *American Bee Journal*, will be present and deliver an address. Dinner will be served on the grounds each day. PROGRAMME.—1. How can bee-keeping be made interesting and profitable to the mnss of the people? 2. Can bee-keeping as a profession be made a success? 3. Bee feeding and bee forage. 4. General discussion on last year's work. 5. Honey in its uses and adulterations. 6. What is the best hive, and how should it be handled and cared for? 7. Questions answered and discussed. All bee-keepers are expected to be present, and be prepared to discuss any and all questions presented. N. P. ALLEN, *Sec.*

Central Kentucky.

The Semi-Annual Convention of this Association will meet In Lexington, Ky., one day earlier than usual, on account of being promised the honored presence of the editor of the *American Bee Journal*, the Executive Committee deciding to have a 2 days' session, commencing Monday, May 5th, at 10 a. m. As this is Mr. Newman's first visit to the bee-keepers of this section, I hope they will appreciate his kindness in accepting our invitation, and attend the Convention in full force, wet or dry. Chas. F. Muth, Esq., of Cincinnati, is also expected, and a large number of prominent bee-keepers from adjoining counties, who will address the bee-keepers with essays, etc. There will be a good exhibition of apiarian supplies. All should contribute to make our Conventions as interesting as possible. W. WILLIAMSON, *Sec.*

Warren and Chautauqua Co., N. Y.

The Warren and Chautauqua County Bee-Keepers' Society will hold its semi-annual meeting at Watts' Flats, Chautauqua Co., N. Y., on Tuesday, May 6, at 10 a. m. E. L. WELLMAN, *Sec.*

Western Illinois and Eastern Iowa.

This Society will meet at Hamilton, Hancock Co., Ill., (opposite Keokuk, Iowa,) Tuesday and Wednesday, May 6th and 7th, 1879. The committee of reception will receive and exhibit free, all articles sent by bee-keepers or manufacturers, if sent in care of Ch. Dadant & Son, Hamilton, Ill., and freight pre-paid. The meeting will take place at 10 a. m., in the City Hall. Reduced rates will be given at the hotels. The Huestis House will take bee-keepers at $1.00 per day. A large number of prizes will be given away to *members present* at this meeting. Rev. O. Clute, of Iowa City, Iowa, will deliver a free public lecture on "Honey and Money," on the evening of May 6th. The anti-adulteration committee will make a full report. Will the members please bring their badges?

WILL M. KELLOGG, *Sec.*

Central Michigan.

The Central Michigan Bee-Keepers' Association will meet in the Capitol at Lansing, May 10th, at 10 a. m. Let every one come, and bring his wife, sons and daughters, likewise anything in the bee-keeping line he may think worthy of exhibition. We anticipate an interesting time. FRANK BENTON, *Sec.*

North-Eastern Wisconsin.

This Association will meet at Hartford, Washington county, Wis.. on Tuesday and Wednesday, May 27th and 28th, at Philip Laun's House. Papers of interest will be read, written by the Rev. L, L. Langstroth, Mr. G. M. Doolittle and Mrs. L. C. Axtell. Geo. Grimm, H. P. Sayles, and others will be present and read articles. Business to commence promptly at 10 a. m. A cordial invitation is extended to all to come, and bring anything of interest to bee-keepers. We have been requested to change this into a State Association. The matter will be presented at the coming meeting, to which bee-keepers from the entire State are cordially invited.

FRANCES DUNHAM, *Sec.*

Foreign Notes.

From *Der Elsæssisch-Lothringische Bienen-Zuechter:* Translated by Frank Benton.

The Question of Feeding.

There are bee-keepers who say: "Better keep no bees than to feed them!" There are others who think they have done enough if, once a year—when the time of greatest need comes—they remember these little creatures with a small portion of honey, or sweetened water, or a piece of candy.

But there are also some bee-culturists in the world—thanks to the spirit of progress, their number is constantly increasing—who feed during the whole year, that is, whenever a time of need comes, or when it may be deemed advisable as a matter of profit.

Brimstoning bees, really robbing them of their honey, or securing large yields in good seasons, cannot be termed scientific bee-culture; on the other hand, wintering bees successfully, and, in order to secure a surplus during poor seasons such as last year, decreasing the number of colonies without killing any bees, may be said to combine the science and art of cultivating bees.

I will now begin with the calender year and speak of the points to be observed in feeding. In the month of January bees in straw hives may be fed with large chunks of candy, which will avoid any great disturbance of the hive; the pieces are to be placed in the top part of the hive and the opening closed at once with a wooden stopple; if no opening exists above make one at once by means of a sharp knife, having prepared beforehand the stopple referred to. This candy feeding is to be repeated every two weeks. With movable-comb hives full combs of honey can be inserted; in case these are lacking, lukewarm syrup of the consistency of mucilage—two parts sugar ard one part water brought to a boil—can be given once a week.

February and March the same.

In April, particularly toward its close, speculative feeding commences, to bring about early swarming. The feeding is to be conducted as described above, only the bees must be supplied oftener—perhaps every three to five days, and, if possible in a warm liquid state, for in this condition the bees accept most readily the food offered them. Bees as well as human beings like warm food better than cold.

I have never supplied flour and such substances, for at this season of the year Nature cares for the bee in this respect better than it is possible for the apiarist to provide for them.

Notwithstanding so few bee-keepers think of feeding during May, June, and July, yet often such unfavorable weather occurs that, especially on cold, rainy days, young swarms or nuclei should be looked after, and this will be found to pay. During such periods feed as often as every fifth day.

August and September cause one to think of winter stores. If the amount already in the hive is not sufficient, it is better to feed now, rather than later, as a substitute, refined sugar made into a thick syrup.

If, in order to save the trouble of feeding, the bee-keeper has waited in hopes that Nature would, during the month just mentioned, supply the necessary food, and has waited in vain, he must not delay furnishing it in the month of October, and it should be thicker than would be necessary earlier.

The directions given for January answer also for November and December.

I wish to remark again that if one tries, even on a single hive, spring-feeding, he will see how rapidly it will build up—will observe with delight how quickly it will increase in numbers, especially if the queen is no "old stick" and the colony has a fair number of bees to start with.

KALTENBACH.

[It needs to be remarked here that while the plan of giving bees liquid food during December, January, and February, may answer under certain conditions in a mild climate, where the bees fly every few days during these months, it would be most certain to bring destruction if followed in any climate as severe as that of the Northern half of our country.—TRANS.]

Translated from *L'Apiculteur Alsacien-Lorrain,* by Frank Benton.

Comb Foundation—No. 3.

Liepore, August, 1878.

MY DEAR FRIEND:—You remember the story of the beautiful Penthesilea, so wickedly condemned to death by Achilles under the walls of sacred Ilium? What a valiant people were these Amazons! From the banks of the Thermodon their empire extended over half of Asia: an empire scarlet with blood, when, shield on the arm and javelin in the hand, they marched forth, yellow with gold, when they gathered the corn-ears and poured the abundance on the conquered lands. And to think that not a man had any part in this splendor! Women, nothing but women who but once a year visited the neighboring nations, and this with the sole aim of perpetuating their race; after which each one returned home.

Alas! though our bees have the courage of these Amazonian daughters, they have not all their wisdom. Let us see. Swarming-time is near, or perhaps already at hand; there are young queens to mate; drones are needed, indeed, but I fully believe that among ten to twenty drones each queen would find a mate worthy of her and in every way capable; if not, the adjoining hive would be able to supply the deficiency, which for the vigor of the coming progeny would only be beneficial. But this is a mere supposition. Every colony, left to itself, raises and feeds—notice particularly this last, feeds—several hundreds, sometimes several thousands of these gentlemen, that are there for four months, strutting over the combs filled with sweets, awaiting philosophically the turn of fortune by which a single one of them is chosen. What a useless multitude of mouths! I do not know, it is true, how much these idlers consume daily, but as perfect insects as males in every sense of the term, and considering their flourishing corpulence, it is easy to comprehend that the honey which falls to their lot is equivalent in value to double what many a bee owner obtains from his hives. Doubtless the workers make them pay dearly for their four months of feasting, but after all what has been consumed does not return.

The intellgent apiarist has more than one string to the bow by which he decimates this ruinous army. Sometimes he lies in wait at the entrance for the drones when they are in full flight, and crushes them without pity; then again he decapitates the developing bees in the cells themselves; or he sometimes hangs frames of drone comb at the back end of the hive, and inserts between, one or two empty frames. All three methods are insufficient, however. In the first case, time is lacking to bring about an appreciable result; in the second case, when the cells have been cleaned the queen turns all her attention to depositing eggs in them, and the execution must be commenced again; in the third case, the empty frames will generally be filled with drone-comb, which only serves to increase the evil. By decapitating the drone brood and sliding the combs to the back of the hive, the bee-keeper hopes that the honey-gatherers will hasten to deposit honey in the condemned cells, and thus prevent the queen's getting at them. Such will be the result during a good yield of honey, but sometimes it does not turn out so. This difficulty is only successfully encountered by the use of comb-foundation. The bases of the worker-cells will be followed, and the drone-cells will only appear at the sides and the bottom—the small spaces left vacant in order to give the sheet of foundation a chance to stretch. The bottom is of little account, for the queen does not often lay there; the same is true of the upper quarter of the lateral spaces, which the bees fill with honey. There remains then on each side a strip only as long as three-fourths of the depth of the frame, and wide enough for a single row of cells. Here we will find drones in five cases out of ten, say 20 at each side, which gives 80 to the comb, counting both surfaces. Now, supposing that we give to a hive four combs in the spring, which number is enough, we will have then, at the most, 320 males, if it is admitted that all the large cells have been occupied with brood. But there is no certainty of this; for, as I have just said, five times only out of ten the portions built by the bees are composed of drone-cells; besides it is very seldom that brood is found at the extremities of the combs next to the side-pieces of the frames. I therefore believe myself correct in affirming that, on the average, a comb built on comb foundation never produces over 50 drones in a whole year. You still find this figure large. Well, would you not decapitate them here a hundred times faster and a thousand times more easily than if the combs were wholly composed of drone-cells? Another correction, if you please: After the swarming-season, give each one of your powerful colonies a sheet of foundation to fasten and build out, and even the finishing cells will be of small size. You will remove this frame when the foundation has been fastened and one-third completed, which will be little more than six or seven days, and put it away for use during the following spring. In order that the queen may not lay in it at once, suspend it outside of the brood-nest, next to the outside comb. But observe well that I have said *the strong colonies.* In weak or simply medium colonies you would run a great risk of finding the foundations scarcely covered with workers, sometimes not covered at all.

However well you may succeed, do not count upon suppressing entirely the laying of drone-eggs. When the queen fails to find large cells in her domain, nature, wisely tenacious of whatever concerns the perpetuation of the species, impels the queen to lay here and there unfecundated eggs in the first cells she finds; the workers lengthen out these cells, or give them a curved capping, in order that the insect may be able to develop easily. I have in my possession a sheet of foundation made by Otto Schulz, where, on five centimetres square (23 sq. in.) in the middle, the bees have even gnawed away the ridges forming the bases of the worker-cells and then constructed on the surface drone-cells. This occurrence, which is only exceptional, took place in a first-class colony, ready to swarm, and in which all the combs, save the inserted foundation, were composed of old worker-cells, only offering, doubtless, cells too contracted, in consequence of the successive hatchings of many years, for a drone to attain perfect growth.

Louis Huber, according to my information one of the most experienced apiarists in Germany, states in the *Eichstædter Bienenzeitung*, May, 1878, that out of about 300 sheets of comb-foundation which he used during the past year, only two presented drone-cells in the middle. This deviation from the rule was due in one instance to an accidental break in the sheet of foundation, and in the other to the fact that the foundation was suspended in the back part of the hive at a time when the bees were not flying much.

A passing remark. Had one said to Mr. Huber, some five or six years ago, that the latter would one day buy large quantities of artificial comb-foundation, he would only have received a smile, as a joker. If a man of this sort, who formerly considered the use of artifical comb-foundation *Spielerei* (mere play), has come to use 300 a year, it must be, doubt not, that they offer decided and superior advantages. These advantages, my friend, are not wholly included within the two principal points which we have just considered. I will call your attention to some other advantages of our method of management, which, though secondary, nevertheless are of considerable importance.

1. We obtain combs perfectly straight and of a very uniform construction, which points, in glancing through the hives, and especially in manipulations, are not to be undervalued. The more uneven the surfaces, the greater the indentations, so much the worse the combs stick together.

2. We can easily substitute new brood combs for the old ones. If the brood-combs are old, black, and the cells small, which is the case always after about seven or eight years' use, we replace them by our foundation, and less than five months suffice to give us new brood-combs, with good-sized cells, where our insects will breed rapidly and produce bees of a respectable size. I do not know but that I am wrong, but I do not like these microscopic bees which some fanciful apiarists show with pleasure, and which are only creatures that have been stopped in their development by the narrowness of the brood-cells. I have always believed, and I believe still, that a bee as large as a Soissons kidney-bean carries more honey in its sac than two of these dwarfish insects not larger than a grain of rice.

3. Combs built upon comb foundation are more easily used in the extractor than natural combs. Though the bases of the cells are thinned down by the workers, their thickness remain greater than that of the septum in natural comb, and therefore the capability of resistence is greater. Besides, the combs built on the foundation are more elastic (something which can be easily verified) than the new combs of our hives. It is rarely the case that the most rapid revolution produces any break in them. The most important advantage of this peculiarity is this: that our combs, emptied without damage by the Hruschka machine, render us incalculable aid, in the spring and during the summer, in the rapid increase of the strength of our stocks, and from this an earliness in swarming proceeds as the first result, which is followed, as I said in my first letter by an increased honey-product.

I might also, on the authority of many authors, show you that artificial combs aid in the preservation of the health of the bees, by saving them from a portion of the organic strain necessary in the secretion of wax, a strain, which, if it does not directly produce disease, consumes, at least, and shortens life. Physiology does not reject this hypothesis; but as I have no exact facts to furnish I prefer not to touch this point. Moreover what I have been able to prove to you, in my letters, in a decisive manner, ought to content you fully and to remove from you all hesitation in regard to comb foundation.

You are still doubting; I see it by the shaking of your head. Bravo! my friend. I like this disposition: it is the sign of a man who thinks and who does not accept at first sight, as ducks do, everything one throws out. "Those are the advantages," you say to me, "nothing but the advantages; but the defects—you say little of them." Patience; I will reach them if you but wait. Henceforth believe that they are insignificant, and send, without fear a small order to Mr. Schultz: *du diable!* if you will regret it. Dr. Reisser.

Prof. Aug. Menzel known through his works: "*Die Haus und Honigbiene*," "*Bienenwirthschaft und Bienenrecht des Mittelalters*," and "*Die Biene und ihre Beziehungen zur Culturgeschichte*," died last December, at Zurich, Switzerland.

For the American Bee Journal.

Glucose as Food for Bees.

C. J. H. GRAVENHORST.

The article by Dr. A. W. Foreman in the March number of the Bee Journal is an excellent one, and I have read it with great pleasure, but I must confess that we German bee-keepers have not been so successful in feeding our bees glucose as he was. Ten or fifteen years ago there was much ado in some of our bee papers about glucose as a good and cheap food for bees. Therefore I longed to try it. I ordered 19 or 20 pounds of glucose from one of those bee-keepers who had recommended it in our bee periodicals. The result of feeding it to my bees was a very bad one. The colonies fed in October died of dysentery, and those I fed in the spring dwindled away. I very soon abandoned feeding glucose. One year after this one of my neighbors, a beginner in bee-keeping, had 20 good colonies of bees. As the spring was not favorable for our bees, and he was obliged to feed his bees, he asked my advice. I told him not to spare food and to feed only pure honey. As long as he did this his bees did very well. About ten or twelve days after I had last called on him, he came running up to me and told me all his bees were dying. "Only come and see," cried he, "it is dreadful! My bees come out of their hives and drop to the ground, where they perish."

And so it was. I saw the garden spread over with dead and dying bees. On examining the hives and removing the frames, only a handful of bees were found on a frame with unsealed and capped brood in every hive.

"What have you done with your bees?" asked I." "Only ten days ago they were strong and prosperous as my own."

He at last told me, that some days ago a friend (bee-keeper) had called on him and recommended glucose as a good and cheap food for bees, and stated that he was feeding it with the best results. Since that day, said my friend, I have fed glucose. I told him my experience with glucose the year before, and in a moment he turned over the barrel with the rest of that poisonous food, and covered it with earth. Out of twenty colonies he saved only five, by uniting the bees on good brood-combs. Although he now fed pure honey and kept the colonies warm, even these colonies did not prosper.

Other German bee-keepers have had no better success by feeding glucose, and therefore they have abandoned feeding bees with it. Chas. Dadant is right when he says, on page 120 of the Bee Journal, where he noticed the report of the 23d Congress of German and Austrian Bee-Keepers, held at Greifswalde in Pomerania, last September: "Every method used to feed bees in spring was advocated—honey, sugar, compounds of sugar and honey with eggs, milk, wine and flour, etc., but in vain have I searched for grape sugar or glucose. It was not even mentioned."

It may be, that some species of glucose are not poisonous for bees, and for this reason it may be fed to them to winter on, or to save them from starvation, and in such cases it would do no harm to the public; but feeding glucose to adulterate the honey for sale is a great dishonesty.

The highest praise is due to the AMERICAN BEE JOURNAL and such of the American bee-keepers who have never ceased to condemn this adulteration.

Brunswick, Germany, March 28, 1879.

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Foreign Items.

GLEANED BY FRANK BENTON.

The man to whom the bee-culturists of Frankenthal, Rhenish Bavaria, readily accorded the title "*Frankenthaler Meister*," Herr J. Mehring, died at that place, last November, aged sixty-three. On page 298 of the AMERICAN BEE JOURNAL for Sept., 1878, is a short account of Mehring's great invention—comb-foundation. This alone would assure him a place in the annals of bee-culture, yet his active part in numerous apiarian discussions, ranging over a long period, give him an additional claim thereto. To poultry and bird-raisers in Germany the name Mehring is not unknown.

BEE CULTURE IN TROPICAL LANDS.—"Mr. W. Hepworth haa visited the island of Cyprus, and in a letter written last September he makes the following observations concerning the Cyprian bees: 'The bees fly busily and collect their stores of honey for the moderately long winter. In a land where there is no milk, and hence no butter, honey is quite a valuable product. Yet the bees are like the negroes, Bedouins, and other improvident creatures; they collect no great store of food. The best of it is, they do not need to do so. Their greatest enemies here are the hornets, which with evil intent, lie in wait for the returning bees, pounce upon them, rob them, and often kill them. These waylayers are easily captured, a bottle half full of water serving the purpose. The hornet is a thirsty creature and takes to the water like a drunkard to his grog'."—*Oesterreichische Bienen-Zeitung.*

Statements to the effect that bees cease to store a surplus of honey when taken to warm climates have been for some time going the rounds of the newspapers. It is well known that Southern California with its mild, even sub-tropical climate, gives wonderful returns to the skillful apiarist; Cuba, situated wholly within the torrid zone, sends considerable honey to the United States every year. Correspondence which the writer has had with bee-keepers residing in the torrid zone, shows that the newspaper statements referred to are incorrect; besides, the accounts of travelers all agree that honey is raised in considerable quantity in most tropical lands, even where the system of bee-management is very rude.

The honey harvest in tropical climates is very likely to be extended over a greater portion of time than it is in temperate regions, yet it does not follow from this that the bees store more honey; for the yield at any one time is not as likely to be as large as one as that of a more temperate climate, and hence there is more probability that the honey will be used in brood-rearing about as fast as gathered, so that, unless an improved system of bee-culture be followed and the honey removed often during the gathering season little surplus will be obtained.

In the new Austrian bee journal, edited by R. Mayerhœffer, is the following: "More than one Yankee bee-brother has already proved satisfactorily that bee-culture is by no means mere child's play which robs us of time and money, but, on the contrary, properly taken hold of, can become a real gold mine. In Germany and Austria, so far as we know, the manufacture of bee-hives and apiarian implements is conducted on a large scale by three firms only."

SCHMIDT.—The Honorary President of the Apiarian Society of Alsace and Lorraine, Jean Schmidt, died at Barr, Alsace, last December, aged 45 years. He was one of the founders of the Alsatian Bee-Keepers' Association; and in 1875 Second President of the German and Austrian Itinerant Apiarian Society. He did much for bee-culture, grape-culture, and general agriculture in Alsace, besides occupying various important civil offices in his city and canton. *Mœge ihm die kuehle Erde leicht sein und sein Andenken in der Imkerwelt erhalten bleiben!*

JAKOB.—On the 17th of December, 1878, Herr Petrus Jakob died at Fraubrunnen, Canton of Bern, Switzerland, aged 62 years. Herr Jakob was the founder of the Bernese Bee-Keepers' Association and of the Swiss bee paper, *Die Schweize Bienen Zeitung*, which he edited until 1877, when he nominally retired, though he really remained one of its active contributers up to the close of his career. He was an upright man, and a skillful apiarist and editor. May he long be remembered in the bee-keeping world!—*Oesterreichische Bienen Zeitung.*

"THE PRACTICAL BEE-KEEPER."—The second edition of C. J. H. Gravenhorst's work on bee culture, "*Der prvktische Imker*," has been published at Brunswick, Germany. The book is the work of one of the German masters in apiculture, and as such could not but contain much that is of value. The hives and hence the methods of manipulation would hardly suit most Yankees, for the author prefers the "Bogenstuelpher," a style of hive which the needs of his locality and the methods of management in later times have led him to construct, taking the old straw hive as a basis. The "Bogenstuelper" looks outside very much as would a good-sized trunk made of plaited straw and having a top arched from front to rear. In order to get at the combs which are built in U-shaped frames, this round-topped straw box is tipped back on one side or rolled clear over! Gravenhorst claims that in the straw hive with round top, bees winter best; further he says: "Experience has fully shown that the length of the movable-comb hive has no unfavorable influence in wintering." The Cyprian bees are regarded by

Mr. Gravenhorst as far superior to the Italians. On the whole, the book presented by this author is one that shows on every page the *practical* bee-keeper, who has had years of experience with hundreds of colonies of bees.

☞ "The Societie de Apiculteur de la Somme" (Northern France) is composed of practical men, but the society is "looking for more light" in the scientific and practical management of the apiary. In a recent letter to the editor of the AMERICAN BEE JOURNAL, L'Abbe DuBois, the correspondent of the society, remarks that they "find the most important and interesting experiments are made by their colleagues in America," and adds: "Nothing can teach them better than the AMERICAN BEE JOURNAL, which you edit with so much ability and zeal."

Herr C. J. H. Gravenhorst, writes to the AMERICAN BEE JOURNAL from Germany as follows: "We have had, not a severe but a long winter, with much snow, and our bees had only some cleansing days on the 31st of December, 1878, the 9th to 11th of February and the 10th of March. So far they have wintered very well. Since the 10th of March we have, every night, had a severe cold, quite unnecessary in the month of March. Vegetation is far behind that of other years."

The Society of Bee-Friends in Bohemia held a constitutional meeting on Februry 23d, in Prague. The following were elected officers: First President, Julian Walter, Professor; Second President, Ludwig Wussin, manager of the domains of Prince Lobkowitz; Vice-President, Johan Czerny; Secretary and Publisher of the Society's Journal, R. Mayerhœffer; Bibliothecary, C. E. Mascher, Professor; Treasurer, J. Reibstein. This society is one of the youngest in Bohemia, but promises to flourish in a short time. R. MAYERHŒFFER, *Sec.*

A young gentleman desiring to sojourn some time in Europe, especially in Austria, and wishing instruction in the German language, would find an amicable and agreeable reception in my house. My villa is situated in a romantic country; here he may busy himself with agriculture and especially *apiculture*, receiving correct instruction in the German language, which I fully guarantee. The conditions are very moderate. The abode will be *free:* for board the amount will be fixed according to his requirements. Living in Prague is good at moderate prices, fully 20 per cent cheaper than anywhere else. For further particulars address, Rudolf. Mayerhœffer, Publisher of the "Austrian Bienen-Zeitung," Praga, Austria, Newstadt, N., 747.

Correspondence.

For the American Bee Journal.

How to get Strong Colonies Early.

L. L. LANGSTROTH.

Few will question that to succeed in this, our colonies must go into winter quarters strong in numbers, with plenty of young bees, and ample supplies of wholesome honey. In my location in Southern Ohio, black bees as a general rule lose weight, after they cease to get honey from white clover—ordinarily about the middle of June—while Italians in some seasons will forage so largely on the second crop of red clover as to build new comb and add considerably to their stores. Our fall forage is seldom of much account, and the Italians frequently cease breeding by the first week in September. The black race which appears to be less prescient of the future, will often, even in poor seasons, breed much later and use up all their honey.

In similar locations Italian bees should be induced by feeding to make a good spread of brood, even if they have all the honey they need, or are so over rich that some of their combs need to be emptied. This has been usually accomplished by liquid feeding—but where this is not needed for the support of the bees, I will venture to suggest for trial a frame of flour candy where pollen is scarce, or of pure candy where pollen is in good store. My experiments last winter and this spring, seem to indicate that candy acts as an incessant stimulus to the rearing of brood, and may under some circumstances be used much more advantageously then liquid food.

Colonies which have scanty stores after they have been stimulated to make the required spread of brood, should be generously fed with liquid food. I say generously for any parsimony here is on the "penny wise and pound foolish" principles. Italian bees, particularly, seem to know when they are well off, and labor accordingly—they are equally conscious of poverty, and repress their spread of brood. They can know nothing of their owner's generous intentions of anticipating their wants—and if they could, would find too often that good resolutions and timely supplies are two very different things. How many colonies have had all their hopeful energy, not to say their very lives, *extracted* out of them!

Having referred to the want of fall

forage in my apiary, I can say, that having resided in Oxford for over 20 years, I have scarcely known anything by experience of the so-called bee disease. May not my exemption be owing to the fact that when honey was plenty, my bees had only such as was gathered before Autumn. And when it was not, they were supplied with good sugar syrup. The experience of last winter showing again that this fatal distemper has prevailed under the most varied circumstances, as to the kind of hives used and methods adopted for protecting the bees, seems strongly to indicate that it is mainly caused by late gathered honey. Those who have suffered so heavily, may next fall, extract such honey and supply its place with sugar syrup, or honey extracted earlier in the season—leaving a few colonies to winter on their late gathering, so as better to test the matter.

Most of the points in the article in the last number of the American Bee Journal on spring feeding, are well taken, provided the bee-keeper does not supply his bees with water in their hives—but where this is done, I consider stimulative spring feeding almost a vital necessity, in districts where early strength is usually indispensable to profitable bee-culture. Where liquid food is given, it may be made thin enough to supply what water the bees need, or this water may be put in a comb easily accessible.

In extracting, I always supply from a pail of water, one of the outside combs, and saved. for honey gathering, the labor of thousands of bees. My neighbor, Mr. D. A. McCord, has an ingenious device which may be called a lamp-wick water-feeder. The bees suck the water from a bottle, through a wick which passes through a cork. This water feeder may be kept under the chaff cushion where it will always be warm and accessible even in very cold weather. The bees can thus liquify the candy on which they are incessantly working, and are not lost by water excursions in unsuitable weather. Timing some water gatherers this spring I found them to be about twice as long in loading up, in chilly weather, as when weather and water are both warm.

In a country as extensive as ours, the conditions of successful bee-keeping are so various, that it is often quite impossible to lay down rules which shall be applicable to widely different latitudes. Prof. Cook in his apiary at Lansing, Mich., finds that flour feeding is of small importance—the natural pollen being usually abundant as soon as bees are able to work in the open air. In Southern Ohio, however, flour feeding is often almost a necessity. In some seasons the bees use it largely before the pollen buds open. This season severe cold destroyed them just as the bees began to use them, and but for the flour, breeding would have been suspended in most of our hives for nearly a month—most of our colonies having consumed all they had on hand. A week ago I examined the combs of more than 20 starved colonies in this vicinity, and found in them all, less pollen than I have often seen in two combs in Massachusetts. In regions of abundant autumn forage, pollen is often gathered in excess of the wants of the bees. Some old English authors complain of what they call these injurious "sloppings" in the combs of old colonies. Ten years ago, late frost in this region, so completely destroyed the pollen supplies, that I had to resume flour feeding late in May! Some colonies had already began to devour the uncapped brood.

If our colonies in this region were not strong in honey gatherers by the last of May, the more colonies we have, the more money we are liable to loose. On the contrary, a slow increase of bees in the spring may be desirable in regions where there is little early forage, and where usually the late summer and fall gathering constitutes the main crop. In such regions the "quart of bees" theory, provided you can safely winter that number of young bees, may not be so far out of the way, as many have thought—while colonies stimulated to early strength may use it only to eat up all their stores, and die unless they are fed largely. I give the experience of a friend on this point. In the month of May he moved his large apiary from Northern Ohio to Iowa. His colonies were in just the condition in which he had found them most profitable in his old home. In his new location, he found no white clover, nor indeed anything on which his bees could subsist. They consumed all their stores—many died and all would have perished but for extensive feeding. When the basswood and fall supplies came on, the survivers gave him a large surplus. As matters were then, how not to have his bees breed early, was to him the most important problem and he kept them buried in their winter clamps as long as possible. When I visited him, he showed me a line of white clover more than half a mile long which sprung up from seed sown by him in one of his walks.

Having seen apiaries from Maine to Mexico, I increasingly realize that in our instructions to beginners, the best that we can do is to lay down what may be called the general laws of profitable bee-culture, while the application of these principles may constantly remind us that "what is one man's meat may be another man's poison." Only those with sufficient knowledge and sound practical judgment, will ever be able to apply these principles to their own localities, in the varying circumstances which, in the long run, must be encountered by every bee-keeper. Such men as Quinby, Grimm, Hetherington and Harbison are admirable examples of what can be done in this line.

Oxford, April 15, 1879.

For the American Bee Journal.

Queen-Rearing.

H. ALLEY.

The saying "that there are right and wrong ways to do any thing" can as well be applied to queen rearing as to anything else. Sometime last year, a correspondent in *Gleanings*, gave his method for rearing queens. His plan comes under the wrong way of doing things. He stated that he sent his way of rearing for the benefit of beginners. If my memory serves me correctly he reared queens in this way: "Remove the queen from a full colony of bees, and in the course of a few days destroy all the cells the bees have made, and then insert a comb containing eggs."

An old queen breeder, would put the eggs in, in the first place, and at the right time. Good queens cannot be reared in any such way. We have found, from experience, that the sooner queenless colonies are supplied with eggs to rear other queens from, the better the young queens will be. After the excitment caused by the loss of the queen is over, I notice that the bees do not go to work to construct cells with as much vigor and determination as they do during the first few hours after the queen was removed.

We can remove the queen from a full colony and in one hour have them building queen-cells, and be quietly at work. This is something we discovered last year. We select the most populous colonies to rear queens in. A hive of bees can be compelled to rear anywhere from 1 to 200 queens, the more they raise the poorer the queens will be. Twenty-five queens to a full colony, is as many as should be reared at one time. Just as good queens can be reared in small boxes as in full colonies, provided too many cells are not made at one time. Bees that have reared one batch of queens should not be used for that purpose the second time. Fresh and young bees should be used everytime, if one desires to get good queens. Many of those who rear queens for sale allow too many cells to be made at one time, hence the out-cry against dollar queens.

Last season we had the pleasure of witnessing a small colony of bees supersede their queen. The queen was one that we had used for three seasons to breed from, and we did not think she was quite vigorous enough to breed from last year, but wanted to preserve her life as long as possible, for the good she had done. She was kept in a small hive with a few bees; the combs were kept well filled with eggs and brood, which I would remove occasionally to keep up other nuclei; the workers felt that the old lady was rather old, and laid their plans to get rid of her and to supply themselves with another queen. So they commenced to construct a queen cell, which I cut out as soon as sealed over. I obtained a half-dozen very fine large queens in this way; but the bees soon got sick of queen-rearing, and one day pitched the old lady out of the house. I had raised nearly $2,000 worth of young queens from that one, and I never saw a dark-colored queen from her—or any that were not very yellow and beautiful. I have one of her daughters now, that I am thinking of sending to friend Newman, but I don't like to spare her. I have reared a good many queens from this one and have seen none that were not very beautiful. She is 3 years old in June next. We will send a few of her eggs to any one within 200 miles of Wenham, who would like to know whether a queen will duplicate herself in royal progeny everytime. We shall charge nothing for these eggs, and only do this to prove what we said in the JOURNAL last fall.

Rearing queens for $1.00 each is not a money making affair. The price does not make the quality of the queen by any means—the manner of rearing, and not the price, makes the quality. A customer sent us an order for some queens a few days ago, and took occassion to say that he had paid certain parties $15.00 each for queens, and that they were no better than those he already had.

I claim that a man should have considerable experience in rearing queens before he can rear those that will be satisfactory in all respects. There are too many bee-keepers who are rearing a few queens for the fun of the thing. I know a man who is rearing queens and selling them to his neighbors for pure Italians. This man has 100 colonies of black bees in his yard. Pure queens cannot be reared in any yard where there are 200 colonies of what many would call pure Italian bees. All the 200 colonies of Italian bees would not produce beautiful and well marked drones. Even if they were all beautiful drones, the queens fertilized by them would not duplicate themselves in queen progeny everytime. I select a queen to rear drones from, with as much care as I do to rear queens from. Only the drones from one queen are permitted to fly in our yard to mate with the young queens.

Queens fertilized as above will not all produce pure progeny. Like does not produce like any more in bees than in other animals. Those who have gone into the fancy fowl business know how hard it is to get just the right feather. It is somewhat so with bees. We once tried to do something with fancy pigeons. Could get a beautiful pair of pigeons at a high cost but the progeny from them was another thing. Once in a while a well marked young bird could be reared. No doubt about the purity of the blood, still they did not breed to a feather, as we supposed they would before we had been through the mill. The chances for getting pure queens are very much better, at least I have found it so.

Wenham, Mass.

For the American Bee Journal.

Consequences of Trusting to Luck.

C. F. MUTH.

Reports from different localities indicate that last winter was very hard on bees, and one which will try the quality of the bee-keeper. A large number of colonies were killed, and some of our sanguine friends have an idea that enough damage has been done to advance the price of honey another season. Such would, indeed, be a boon, and an occasional winter of that sort might be a blessing in disguise. The honey market is demoralized, honey is below par, and sales are unsatisfactory to both producers and dealers.

There are several good bee-keepers in our neighborhood. Friends Hill, Savage and Curry, who have had no loss to report in wintering for years, have none to report now. We have no house-apiaries, no bee-cellars, we need no chaff-hives and wintering gives us no extra trouble. I was as fortunate as any one of my friends, up to last winter. For the first time I trusted to luck, and now realize the exact position of those who are in the habit of doing as I have done.

It will be remembered that last fall I was building a new house; an apiary was to be on top of it. My bees had to be moved to the farm of my brother, in August, where several acres of buckwheat bloomed all the summer and fall, yielding just enough to damage our nice white clover honey. My brother Henry asked my permission to put honey-chambers on my hives, to which I did not object. The buckwheat started them to breeding again, and, when the second stories were removed with what little honey they had collected or foundations built out, there was no time for the bees to collect a new supply of winter stores. I was to go out and administer to their wants before the cold weather commenced, of course; but, building and other business prevented. I had no day during the fall to spare, to take a 9-mile ride, to look after my bees, and winter commenced before I had time to cut winter passages through the combs. The result is that I can sympathize with those who trust to luck every year, but have a large crop of honey once in a while, and credit it all to their own skill, inspiring others with their great inventions in bee-culture, but during the next winter, they lose 50 or 75 per cent of their bees, or all they have, as the case may be!

The first few days of March were pleasant. My brother Henry reported every one of my colonies in good condition and flying lively. It was my intention to leave them in the country until May, because I knew from experience that there is less chance in early spring, for bees to get trapped, behind windows, etc., and that in consequence they increase faster than in the city, but being uncertain as to the state of their stores and not having time to look after their wants, while away from home, I had them brought in about the 20th of March.

There were live bees in 9 hives. So few in some, however, that only 8 were left a few days ago, after they were placed on their new stands. This was the remnant of 30 colonies of bees, which were in good condition last fall. Two weeks later, and not a bee would have survived. The verdict of a coroner's jury would have been: "Died of Starvation."

I don't wish this this article to come under the heading of "Blasted Hopes" because I had, under the circumstances, no business to hope for anything else, and my object at the present writing is to show the consequences of trusting to luck. The result is alike in every business, and demonstrated in so many failures around us.

For the American Bee Journal.

The Season Commenced.

G. M. DOOLITTLE.

In my last article I told you all that I thought necessary to be done up to May, unless it was to set the bees out of the cellar during April, if the weather became warm enough so bees could gather pollen. Of course, I have omitted details in many things, and shall have to do so, for I cannot give all the items for a season's work in 7 or 8 papers.

Our first work is to know that each colony has honey enough for brood-rearing to go on rapidly, and put them in proper shape to rear brood advantageously, for the brood reared through this month constitutes the working force which gathers honey from white clover. To this end, we go over all our colonies some cool morning, and all that do not occupy six spaces between the combs, with bees, are shut on to as many combs as they have brood in (by means of the division board before described), as soon as it is warm enough to work at them. If they are very small, so as to have brood in only two or three combs, and small patches at that, we take away all extra combs, so as to take precaution against robbing; but if they are a fair colony, we leave the extra combs the other side of the division board, so the bees can carry the honey over as they need it for brood-rearing. Contract the entrance to each colony as soon as they have their first flight in the spring, to suit the size of the colony, giving the very strongest not more than 3 inches in length of the entrance, while the weakest should be contracted so as to let out but one bee at a time. If, after all precautions our bees get to robbing, I know of no better way than to carry the colony that does not protect its stores into the cellar, and leave it a week or so, or until the bees are getting pollen freely, when they will rarely ever attack them again unless they are so weak as to be worthless.

Now suppose you have your bees all fixed as I have suggested, that is, they all have honey enough, and those occupying less than 7 spaces between the combs shut on to only as many combs as contain brood, our next work is to increase this brood as fast as possible. To this end, we go over them once a week and spread the brood, as it is termed. The way we work with the strongest colonies (those not having any division boards), is to change the brood nest right over, that is, to place the central sheets of brood, or those having the most brood in them, in place of the outside brood combs or those having the least brood in, placing those having the least brood in the center. Thus we get every frame full of brood that has any brood in it at all. The next time over, or in about a week more, we take one frame from the outside of the brood and place it in the center, and so on till all the 9 frames are full of brood. Those that are contracted with the division boards are kept as they are until they have every available cell for brood filled with brood, when an empty comb is placed in the center of their brood nest also. If we wish to build all up to strong colonies, we take from those having their hives full of brood a frame of hatching brood, and give it to the weakest (if not too weak to care for it), and place an empty comb in place of the frame of hatching brood taken, and so on till all are built up to strong colonies, each having a hive full of brood; that means, have the brood so it comes out to the side-bars of the frames, even the cells bordering on the bars at both sides and top, should have brood in them, and do not stop short of this. If you have queens that will not keep the hives filled with brood like this, mark them, and as soon as convenient replace them with those that will.

Now, I will tell you of a way of using all those colonies that were so weak as to need the division boards, which we find very profitable. By so doing, I will have to carry you in this article well into the month of June; but it will do no harm, as I shall have more than I can get in one article to say in the June number. To return to those colonies we shut on to as many frames as they had brood: As soon as those having 5 frames have them full of brood, take from them a frame of hatching brood and give to the next strongest, say one that has four frames, and put an empty comb in the place it came from, and so keep working till you have each hive contain 5 frames, and those frames completely crowded with brood (a queen that will not keep 5 Gallup frames, or their equivalent, crowded with brood is not worth a cent), which should occur about the 10th or 12th of June in this locality. Now, go to No. 1 and open it, and look the frames over till you find the queen, and when you have found her set the frame she is on one side. then take the 4 remaining frames and all the bees to No. 2. Spread the 5 frames in No. 2 apart, so as to set the 4 frames brought from No. 1 in each alternate space made by spreading the frames in No. 2. Close up No. 2 now, and you will see that in 10 or 15 days it will be one of the strongest colonies you have in the yard. By alternating the frames, the bees are so mixed up that they will not quarrel, and so far as my experience goes, no harm will befall the queen. We used to cage the queen for 24 hours, but for the past 2 years have not, and never had one molested. This is also a good plan, where we do not wish increase, to serve a whole apiary in the same way.

Now we will return to No. 1, which we left with the frame and queen standing outside of the hive, Place it in the hive close to one side and put in an empty frame, adjust the division board, and you have as nice a nucleus as any person need desire, and they will build you the nicest worker combs you ever saw. You can use this nucleus for any purpose you may wish. Of course, many of the old bees taken to No. 2 return and make it (the nucleus) very strong. I will tell you some of the purposes we put these to: 1st. We use them to supply us with queens. 2d. If we wish more colonies, we build them up to strong colonies by fall. 3d. We keep them building comb till they are all used up, taking it away from them as fast as it is built, &c.

We hardly think it necessary in this locality, to put on boxes in May; but further south they should be put on. If our bees are far enough advanced to crowd the queen with honey during apple bloom, we think it best to extract, for they rarely go into boxes thus early. Of course, each one can use the principle described, whether north or south, and vary the dates to suit their locality.

Borodino, N. Y., April, 1879.

For the American Bee Journal.

About Comb Foundation.

HERBERT A. BURCH.

The past dozen years have been fruitful in the production of new devices and methods of management designed to make apiculture a business at once safe, sure, and fairly remunerative; and of them all, comb foundation, in my opinion, stands pre-eminent. Years ago, when a 5 or 10 lb. package of honey readily sold for 25 to 30 cents per pound, and that, too, in any quantity that could be produced, it was no difficult matter to make bee-culture a paying pursuit. But the changed condition of the country, which was the inevitable sequence of a desperate and protracted civil war, necessitates many changes in the management of the apiary. When production is limited and prices are high, quality and appearance of goods are of secondary importance—quantity alone being paramount. But now, when agricultural production in its every branch is crowded to the utmost and prices rule low, quality and attractiveness are of vital importance to the producer. The apiculturist who in the future pays expenses and realizes a fair income, will be the man whose goods meet the demands of consumers, commanding the highest market prices, and whose management produces tons of honey with the least expenditure of time and money. We must study to reduce cost of production to the minimum. The price of honey (as well as all agricultural produce) is likely to rule low for many years to come, and in no other way can we attain the best success.

Assuming, then, that the situation demands that we produce our honey as cheaply as possible, it follows that we must avail ourselves of every aid that will assist us in attaining this result. In the list of such aids, comb foundation stands at the head. Not that its use has always been attended with success, complete and satisfactory; for it has not. Many sad and expensive failures would falsify any such claim. But comb foundation, properly manufactured and rightly used, cannot, in my opinion, fail to give the most satisfactory results. It not only enables the apiarist to obtain straight worker combs for the brood apartment in any quantity desired, but materially assists him in producing comb honey at a cost far below any possible point that can be reached without its use.

Much has been said, of late, relative to the policy of using comb foundation in the surplus receptacles. Many of our best honey-producers decidedly object to the use of foundation in honey boxes, while others consider that the thin, flat-bottomed, or new style foundation, obviates all objections in this direction. I have tested foundation pretty thoroughly, and in my opinion it is very poor policy to use foundation, in any form, in surplus boxes. Aside from considerations of policy—whether or not we are likely to lessen the market value of our honey—I think that for the production of honey cheaply, comb is every way preferable to use for starters. My experience has been that I can get two boxes filled with honey, by using comb for starters, to one when foundation is employed. The difficulty has been, hitherto, in securing comb in sufficient quantity for this purpose. But right here foundation comes to our aid and removes this obstacle. Many of our readers will stop right here and say: "You tell us we must produce our honey as cheaply as possible; how are we to do this, if we must buy foundation in large quantities? The low price of honey will not warrant large expenditures of money, even for so valuable an article as comb foundation." Pause a moment, gentle reader. Do you remember when the dairy farmer began the experiment of feeding bran to his cows to increase the quantity of his products? Although the object sought was attained, many good people shook their heads and said: "It's too expensive, and will not pay." But to-day the dairyman who feeds most heavily makes the most money. Just so it will be with the apiarist. I venture this prediction: The man who rightly uses the most comb foundation, will realize the largest profit.

I have given you in general terms my ideas of the value of foundation. In my next I propose to give practical directions how to use it, in order to secure the best results,

South Haven, Mich., March 17, 1879.

For the American Bee Journal.

Fastening Combs—Wax Extractor.

A. B. MASON.

While in the north-western part of the State last April, I attended the meeting of the North-western Ohio Bee-keepers' Association, held at Napoleon, and I called upon Mr. Pray, of Delta, and saw a, to me, new arrangement for holding combs in the frames when transferring, and it is so much better than anything that I have seen before, or read of, that I want your readers to know of it. Take wire about the size of a common knitting needle or a little larger and cut into pieces as many inches long as the frame is high from top to bottom. In cutting off make the cut slanting so that the ends will be left pointed and sharp. Then bend each end like this, ┌──┐, making the bends at such distance from the ends that the points will drive into the center of the edge of the upper and the lower pieces of the frame. They are much better than strings or sticks, for they are small, and can be bent to touch the combs just where it may be needed, and if it is put over capped brood, and the capping is not bruised, the brood will not be disturbed by the bees, and it is not often that they will eat the comb from under the wire as they do from under sticks. The bees will fill the cells with honey, and cap it right over the wires, completely hiding them from the sight, if neglected and left on. I hardly think any one will use sticks or strings again after once using the wires. Sometimes in handling combs we let them fall and the comb is broken from the frames and these wires being always on hand, the damage is soon repaired.

I have also a simple wax extractor, made under my direction by a tinner, at a cost of $1.00. Mine is 9 inches high, 8½ inches across the top, inside, and 9½ inches across the bottom, just large enough to fit in the top of a kettle on the cook stove. There is a wire in the top to stiffen it, and ears, and a bail, to it. The bottom is left open. The inside piece for holding the comb is 8½ inches across the top, outside, so as to fit inside the top of the outer part just described, with the top turned out all round so as to hang in the other and keep in the steam. This inner part is 6 inches deep and 7½ inches across the bottom, which is punched full of small holes, as are also the sides for about ⅓ its height. I think that this lower part would be better if made of perforated tin, for it would be finer and act more like a strainer. Under this, and inside the can is set a basin to catch the wax as it runs from the holes. The basin rests on some short strips turned in from the bottom. It might easily be fixed with a tube or faucet to let the wax run out into another dish. A cover from one of the kettles on the stove just fits the top, and keeps in the steam. This setting on a kettle partially filled with water, and kept boiling, melts the comb.

Springfield, O.

For the American Bee Journal.

Too Much Honey.

O. CLUTE.

A letter recently received from a bee-keeping friend says: "I do not know but so much honey will be produced that it will not be worth raising." The same idea has had a more or less clear expression in communications to the bee-papers, and in discussions in conventions.

Is there any real foundation for this fear? Is it at all probable that the amount of honey will be so largely in excess of demand that prices will fall below the point at which it can be grown with a fair profit? To all who depend on bee-keeping for a livelihood, in whole or in part, this question is one of great importance. It is, therefore, worth while to consider it.

1. It is to be borne in mind that honey is not a perishable product. It is not at all injured by keeping it during

the whole year. The grower is not compelled to rush his crop into market within a few days, and take whatever a glutted market will offer. He can keep his crop without loss, can send it to market in small quantities if that is best, and can take advantage of any favorable changes in the market.

2. Honey can be transported to any part of the world, and so may seek the most distant markets. Extracted honey is as easily transported in barrels as sugar or syrup. Comb honey properly packed, is now carried across the continent by rail, and across the Atlantic by steamer, with perfect safety. The producer of honey is not confined to a single village, or city, or State for a market. He may find a market in any part of the world.

3. Honey is an article of food which is relished by nearly all people in all climates and classes of society. Of course there are exceptions. Now and then a person is found who does not like honey. But these exceptions are so few in number that, practically, they need not be considered.

4. Notwithstanding the fact that nearly all persons like honey, there are only a few families in which it appears as an article of food. The families in which it appears, usually consume only a few pounds in the course of the year. In much the larger part of families not a pound of honey is bought in a year, yet such families buy sugar, and syrup, and butter in abundance. They think that honey is an expensive luxury, and hence do not buy it; or they have never got into the habit of buying it. Very much depends upon this matter of habit.

5. Notwithstanding the fact that the whole world may be a market for the sale of honey the bee-keepers of America have, until recently, made but little attempt to open up this market. Attempts are now being made by a few dealers, and with good results. But ability and enterprise expended in this direction may soon develop a foreign market which will demand more than the whole present honey crop of the United States.

6. Let attention be given to developing our home and foreign market, until honey shall become in as constant demand as butter, and syrup, and sugar now are. This can be done. All intelligent people know that we need not look back many hundred years to find the time when butter was used only by the wealthy. Sugar and syrup have come into general use within a few score years, as it were. Yet now the production and transportation of these three articles are of national importance. They are very extensively used in all civilized countries. Let people see that honey is within their means, that it is pure and healthy, and there is no doubt but a very large demand for it will grow up both at home and abroad. Bee-keeping will then become just as legitimate a business as any other branch of farming, will be pursued with the same practical sagacity, and with the same rational expectations.

Iowa City, Iowa, March 10th, 1879.

For the American Bee Journal.

The Best Size for Section Frames.

A. W. FOREMAN, M. D.

Mine are exactly 5 inches square, and when filled with separators between, weigh about 1¼ lbs. I have weighed a great many, and they do not vary 1 oz. from that figure. I leave them in the stores in cases with glass fronts, and retail them at 25 cents apiece, without weighing. I think this sized section and this plan of selling has advantages. For instance, the groceryman will handle them much cheaper, if he don't have them to weigh. The price—25 cts.—is convenient, and purchasers are much more apt to buy than if it was 30 or 35 cts., or some odd number between these figures. Human nature is peculiar, and we must study its peculiarities as well in selling honey as elsewhere. It is well known by observing merchants, that a given article can be sold for $1.00 much easier than for 95 or 98 cents. It is particularly the case with the odd cents. The average buyer will ask to have them thrown off, and unless his wish is complied with he will refuse to buy; while the article at the even $1.00 will be taken without a word.

The first honey I put on the market was built without separators, and the sections ranged from 1 to 1¾ lbs., and had to be sold by the pound. The result was, I always lost the odd cents. Again, I am satisfied the prize box, so-called, is too large for retail purposes. There is a large class of purchasers who will frequently buy a package for an even 25-cent piece, who will very seldom buy the same goods if proportionately larger packages only can be had for 35 or 40 cts. It frequently happens that a laborer goes into a store perhaps with but 50 cts. in his pocket. He wants 25 cts. worth of tea or coffee, or, may be, tobacco; he sees these sections of honey; inquires the price; takes one; leaves his 25-cent piece, and goes off happy. Had it been a prize box, he would have gone off with that quarter in his pocket, or spent it for something else. If any one is disposed to laugh at this, all I ask of him is to watch himself closely for some time, and my word for it, he will catch himself frequently being influenced by these trivial things.

The fact is, the man who is able at any time to buy a prize box for 40 or 45 cts., will just as readily buy one or more of my 1¼ lb. boxes, while the poor one will invariably give mine the preference. I also think it is much easier to get 20 cts. per lb. for honey in my box than in one either smaller or larger. The price, 25 cents, is so easy, and money of that size is so plenty, that if a man has any at all, he probably has a 25-cent. piece in his pocket, and will lay it right down without a word or thought for the honey. My frames are 10x15 inches inside; 7 frames in brood-chamber containing 1050 square inches. On each side hangs a case of the same size as the frame, containing 6 sections, with 24 sections on top; making altogether 36 sections, which hold from 45 to 46 lbs. of honey.

White Hall, Ill.

Journal of Agriculture.

Preparation for Wintering Bees.

N. CAMERON.

We have advocates for wintering in cellars, for wintering in bee-houses, for wintering in clamps, for wintering in double-walled hives, and for wintering on summer stands without protection.

All these ways require expense and labor, except the last. It is no small job to winter a large number of colonies in the cellar, even when you have the cellar. But we find there are other disadvantages. The most noticeable is the rapid diminution in the spring after removal from the cellar, called "spring dwindling." So fatal is this malady that in many cases from one-fourth to one-half of the colonies perish in a very short space of time after removal, and those that survive are very much reduced in numbers, and take a long time to recruit up. The cause of this dwindling is probably on account of the bees commencing operations too soon, from being in a warm cellar. It is claimed by some that the bees wintered in a good bee-house or cellar will not consume more than one-fourth as much honey as if wintered on their summer stands. If this is true, it would be a convincing argument in favor of winter protection. And while I have not tested this as to the amount it takes to winter on summer stands, I am skeptical as to there being much difference. If six pounds of honey will winter a colony with good protection, and it will take 24 pounds to winter without, then it would be advisable to give protection, even if there was no other advantage, provided there was no disadvantage, such as result, in many cases from cellar wintering. 18 pounds to the hive will more than pay for giving the bees good protection. The saving of honey I regard as of more importance than the saving of bees. I intend to test it this winter as to how much honey will be consumed to the colony on their summer stands, and I hope others will do the same. It is not generally understood of how little value the bees are in comparision to the honey and comb. Mr. Hosmer, a noted honey producer of Minnesota, in giving his method of wintering said that before putting his bees away for the winter he shook off all but a pint in the snow. I am not advised as to whether any one else has tried this plan, but I believe that the apiarist might with profit destroy one-half or more of his bees as soon as the honey gathering failed in the fall, taking all the lightest colonies for that purpose. Mr. Hosmer's theory was that the old bees were shaken off that would have died any way before spring, and the honey that they would have eaten saved.

Whether it is true that the old bees can be shaken off, and the others left, I am not able to say. But if all the bees that die from the time they cease to gather honey in the fall and the time that winter sets in could be disposed of at the close of the honey season, there would be a great saving of honey, for there is more honey consumed in the fall months than in the winter; and in the meantime the colonies reduce in population at least three-fourths.

Here nature goes a long way to establish the Hosmer theory of reducing for the winter. I would never advise going any farther, however; would rather strengthen if anything. I like strong colonies with plenty of honey for wintering. While there is no doubt that this is a wise provision in the natural reduction of the large summer colonies down to a very small one, in comparison, for wintering, there undoubtedly is a limit beyond which it would not be advisable to go. The large summer colony, if they all lived during the fall and winter, would be apt to consume all the stores, and starve before the honey gathering of next season. While on the other hand, one too small would not be able to generate sufficient heat to hatch brood to establish a normal colony, before they would be all dead with old age, provided they escape the frost of winter. Last winter my bees wintered on summer stands without protection, and I did not lose a single colony. Wintered in fine condition, and with the aid of the fruit blossoms commenced to breed rapidly. At its close they were left without stores or resource, with hive full of brood and no honey. Here I could see the advantage I might have gained by killing half of the bees at the close of the previous honey season, and had at this juncture, hives with an average say of thirty pounds honey to have added to my hives full of brood and no honey. The result then would have been in four weeks, all my hives full of bees and brood. Whereas the result was at the end of four weeks, they were not half full of bees and scarcely any brood, and I had to feed too or they would have been all dead. Of course we would hate to kill the bees in the fall, and we would hate to lay out a hundred dollars for sugar in the spring to feed, for we know it takes a great deal of hard work to sell a hundred dollars' worth of honey or bees to get it back.

The advantage of comb and honey in the rapid increase of colonies is not generally understood. While it may never have been tried to what extent one colony could be multiplied in a season, I have no hesitancy in asserting that in the hands of a skillful apiarist with the above facilities, fifty would be entirely within bounds.

Lawrence, Kansas.

For the American Bee Journal.

Marketing Honey, Etc.

M. S. BAKER.

A number of articles have appeared from time to time in the AMERICAN BEE JOURNAL upon this subject, generally expressing an opinion of the great necessity of having a uniform price to govern the market. G. M. Doolittle, in the December number, says: "Now, what we want is a fixed price for our honey, as there is for other produce," but confesses that he does not feel competent to point out a way whereby we can secure the desired result, but to bring the subject before the readers of the JOURNAL. He asks the question: "Could it not be brought about by our National Bee Convention asking dealers to agree upon certain prices?" Inasmuch as he asks the question through your columns, an answer through the same will be in place. My answer is emphatically, No. In my opinion there is but one way, and that is by the law of supply and demand. Just when you have got the dealers to agree upon a fixed price, some producer steps in and offers his honey at a much lower price to insure quick returns, and thus ends any combination; I care not how it may have been effected.

I agree with many, that through our organizations we may do much to create a demand, and nothing so effectually creates a demand as a great supply, which must necessarily reduce the price. Now, when the price is reduced below a paying business, then enough of the producers will drop out of the business to lessen the supply, and establish a price more uniform. Bee men are not going to make or produce honey at a loss very long, though it does seem that some do persist in it for some time. And now, right here is a good time and place for me to express an opinion that I have entertained for some time: That some of our bee men who write for the bee papers, commit an error in so setting forth the profits of bee-culture that many are induced to engage in it, thinking it a remunerative and lucrative business, and will suffer losses and reverses that will necessitate their doing something else for a living.

The idea, too, that many advance, and the advice they gratuitously offer to farmers and mechanics generally to keep bees, I look upon as erroneous and one calculated to work an injury to the business generally and to those who attempt to handle bees in connection with other business. My argument to sustain this view is,—1st. No one should engage in a business that he cannot take pride enough in to at least interest himself. 2d. That but few men are so constituted that they can manage successfully, at the same time, a variety of business. This is verified in the various trades and professions. The manufacturer that makes a specialty of but one thing, can so manipulate the business that he can defy competition. His whole energies are turned to that one thing, which enables him to perfect and put it into the market at the lowest price. The professional man is the most successful who turns the whole channel of his thoughts upon one wheel, for in this he has a concentrated power which, if he had suffered it to branch out to supply a number of wheels, the chances are all against him that none of them would move, and even if they did, the power would all be lost in friction.

I know that the profits figured out in isolated cases on a few bees may look tempting to a farmer that seemingly is getting small profits, and he is induced to try his luck, as he terms it, but just when his bees require the most attention, his farm demands all his energies, and one or the other must suffer. But one says his wife can attend to the bees. Now, if she does that, and gives them anything like the attention they demand, then her household duties must suffer. A lady remarked to me but a short time since that she became so much interested in her bees that she had to give up her housework and hire a Chinaman to do it. It may have been the most pleasing work for her; I question whether it was the most profitable.

It is a common remark that the bee business is a lazy business, and induces indolence. It is my experience, however, that to be successful requires quite as much care and attention as any business, and will admit of as much economy. I have said the law of supply and demand must regulate the price of honey, so the adaptability to producing honey of a locality regulates the number that can engage in the business profitably. It is a law of trade and commerce, that the locality that can produce the largest returns for the amount invested, all else being equal, is the locality that establishes the price of that product. The production of honey has increased rapidly in the past few years, and to-day there is no fixed data in any locality of what it costs to produce honey, and as long as the producers are unsettled upon this point, there will be no fixed price, and the dealers will be unsettled upon just how much they are warranted in paying, and the producer will be subjected to all the tricks of trade consequent upon an unsettled market. My suggestion would be then, first, for bee men to determine at their conventions just how much it costs to produce honey by the average bee man; then what an expert, or a successful man, under the most favorable circumstances, can produce it for.

The remarks of the Editor of the JOURNAL, in the December number, upon the Bingham smoker, remind me of my first impression of it when it came to me by mail and was handed me. After I had retired, my anxiety to inspect it was so great I had to do so before I could sleep, and a number of improvements suggested themselves to me at once, and I thought I saw them so clearly I resolved to write to Bingham, that he might have the benefit of them. But when I put it to use, one by one those improvements vanished, and a thorough trial of it has satisfied me that the combination of its good qualities are so arranged, that to attempt an improvement would be but to disarrange them.

Santa Monica, Cal., Dec. 16. '78,

For the American Bee Journal.

Smothering Bees.

PROF. S. S. WEATHERLY.

A heavy snow of 18 inches fell during the last week of November. I desired to test whether bees would smother under snow and ice. I covered two colonies and packed the snow around and over them, as solid as damp snow could be packed, and as high as a shock of wheat. For six weeks they were under the snow and in the meantime there was a heavy rain, which freezing, formed a crust an inch thick thus they were hermetically sealed. But not only did they not smother but they raised brood and came out in the spring much stronger than they were in the fall. Colonies by the side of them exposed to our terrible winter, and those which were in the cellar, were greatly weakened by the continued cold and by disease. The efforts of a correspondent of the JOURNAL, who dug away the ice from the entrance with a knife makes me smile. Bees don't die that way. Why do not men in the northern states pack the snow and ice around their hives and thus keep the bees warm?

Baldwin City, Kansas.

For the American Bee Journal.

Sketches from Tennessee.

S. D. M'LEAN.

QUEENLESSNESS.—In seeking information, uninformed persons often ask questions as to the seemingly strange manœuvers of bees. To all such a correct answer should be given, or they are liable to be led into error. One among the various propounded is that of bees leaving their hives, or "swarming out," as it is called. The answer almost invariably given to such questions is, "They are queenless." Such answer is certainly premature and thoughtlessly given. Well informed apiarists know that a swarm never leaves the hive without a queen to accompany it. When bees leave the hive in a body, it is *prima facia* evidence there is a queen present. When colonies are addicted to such strange proceedings, remove the queen; that effectually stops it.

NUCLEI.—Nuclei colonies for queen-rearing can be formed in single-story hives by using division-boards, making two nuclei in each hive. To guide the bees aright, reverse the entrance blocks. Such are very convenient, and save the expense of separate boxes. Theory:

too many queens lost, entering the wrong way. Practice: queens seldom lost.

Two Colonies in same Tree.—On the 8th inst., I discovered bees in a tree about 300 yards from our apiary. We cut it down and found that two colonies had taken up quarters in the tree. They were about 12 feet apart. The bees now find a home in our apiary.

Culleoka, Tenn., March, 1879.

For the American Bee Journal.

The April Number—Wintering.

JAMES HEDDON.

It has been my intention to write *something* in each number of the Journal for 1879; sickness, however, nearly prevented my doing so this time. I will not let any more time pass without mentioning some of the splendid points, and some of the mistakes that (to me) shine in the pages of the last Journal.

First, I want to say to our friend C. R. Isham, that when bees conclude to "draw out" thick foundation, they make it as thin as need be. When they don't (and perhaps they would not consider it worth while to commence on that which is nearly as thin as natural), his thin foundation will easily be detected. Now, I would advise its use, if at all, in surplus boxes, as guides only, and the less the better. Let us go "slow and sure," keeping up our reputation.

We do not have any bee moles here, but we used to be pestered with the ground mole, till our apiary was a mire-hole. A party here has invented and is making some traps that never fail to rid the premises of these little pests. I cleaned out both apiaries in a week, catching eight on one "run-way."

Next comes my friend Tomlinson, and the bee-feeder question. Now, I wish to say that I have, this spring, bid good-bye to all atmospheric and cloth bee-feeders, and that I have gotten up one that can be made in any machine shop, or upon a foot-power table, that is in every respect all that I desire. It is not, nor will it be patented, but it is free to all. If I thought it would pay, I would patent it; but I do not consider the feeding of bees of sufficient importance to patent what I believe to be the best feeder ever invented. I got over the notion of stimulative feeding some years ago. I now feed only such colonies as need stores, and I wish to feed liquid feed, because I generally have some 50 to 150 lbs. of honey that by accident gets damaged in one way or another, and is good for nothing else. I can feed bees at any time of year, and without daubing a bee or losing any heat (except to heat the feeder), nor coming in contact with a single bee, and can see just what is going on, and how the honey stands in the feeder. What more is needed? On the first opportunity I will send you one, Mr. Editor, and then if you see it as I do, you can describe it to your readers.

Friend Baldridge is "after my own heart" on the standard size of the Langstroth hive, and where A. I. Root and numerous others got their dimensions from, I do not know. I read in his book that the hive measures inside, in the clear, 18⅛x14⅛x10.

Tell friend Bingham that the reason why hens do not pay on a large scale is because they do not pay on any scale, and not until the large hennery was established, were all the debits charged up against the business. Bee-keeping has caught many in the same way.

The article by John F. Eggleston, headed "Improvement in Bees," should be electrotyped and put on the first page of the Journal for one year. Bee-keepers, if you will read closely and heed promptly what is there said, if you are not great gainers thereby, I will be willing to lock arms with Mr. Eggleston, and step down and out.

I have been wintering my 400 colonies in about eight different ways, and I must confess that I am nonplussed to say which plan is best, unless it be the cheapest one. That chaff-packing in every style will not save them I have demonstrated to a certainty, as well as have many of my neighbors. Accidentally, no doubt, the best wintering I can report is of five colonies left entirely alone, and setting some foot or more up from the ground. These were all I had entirely let alone, and *every one* is strong to-day. Were I forced to favor any one plan, I should lean toward the cellar, in which I put 19 colonies; but that by no means succeeded perfectly. My bees wintered better than any others near here, so far as I have learned. I lost, up to date, about 55 colonies. A neighbor, who had 22 colonies, part packed and part in cellar, has one weak colony left. Another has 8 out of 23; and many apiarists have lost all. I give the credit of my partial success through this fatal winter to the Italians. We are told by some writers that "all this evil to some one, will make good for somebody else;" that "lots of bees are dead, and honey will be higher." But these same men always say that "there is no danger of honey declining if bees get ever so plenty." Consistency would be a jewel here, would it not?

Dowagiac, Mich., April 14, 1879.

Conventions.

The North-Eastern Convention.

Met at Syracuse, N. Y., March 11, 1879, at 2 p.m.—President L. C. Root in the chair.

In the absence of Secretary Nellis of Canajoharie, Mr. Porter of Syracuse, was elected secretary, pro tem.

The treasurer, R. Bacon of Verona, presented his annual report which was on motion accepted.

Pres. Root announced that the annual dues of members (50 cents) could be paid to the treasurer, and that any person could become a member of the Association by paying that sum.

The President then delivered his annual address, as follows, on

Marketing Honey.

Brother Bee-Keepers:—The question which impressess me at the present time, as possessing most signal interest to bee-keepers, is "how to dispose of our honey to the best advantage?"

We have hitherto occupied our whole time in our conventions in the endeavor to develop the most satisfactory and profitable methods of securing surplus honey, but we are now confronted by the fact that unless some marked improvement be made in its sale, the supply will far exceed the demand; in fact, it already does so, unless we dispose of our products at ruinous prices.

I spent a week in New York, recently, and saw much to convince me that the consideration most important to us as producers, is how to realize reasonable returns for our increasing production of honey. It behooves us to carefully consider the conditions of the honey trade, and while endeavoring to determine the causes of this depression to devise a suitable course of action.

The present system of marketing large quantities of honey, is to ship to large cities, and leave it to be sold on commission. Shrewd dealers, taking advantage of the glutted market, buy our best honey at unremunerative prices, and sell to retailers in neighboring towns and cities at a good advance, where it is again sold to the consumer.

Years ago when the supply of choice honey was limited, and 5 lb. boxes of fine quality brought 35 to 40 cents per pound, and buckwheat sold for 25 to 28 cents, it was sold readily in the market to which it was shipped and was seldom resold to wholesale dealers.

Two questions are suggested by these facts, viz: How can the demand for honey be increased? and, How can the present system of selling be improved?

It is easily demonstrated that but a very small proporation of the families throughout the land is in the habit of using honey to any extent, if at all, as an article of food. By taking concerted measures to more generally disseminate a knowledge of the healthful qualities of honey, and its desirability as an economical article of food, we shall not only benefit the masses, but take a step decidedly to our own advantage as producers. The little work by Mr. Thos. G. Newman, entitled "Honey as Food and Medicine," sets forth facts concerning the uses of honey, that should be generally diffused.

A more appreciative understanding of the wholesome qualities of *pure* honey would ere long create a demand which the present abominable adulteration of sugars and syrups would greatly stimulate. Already the reports by reliable chemists, of their analyses of many brands of syrups, have caused a distrust in the minds of consumers which honest bee-keepers should take advantage of, in recommending and furnishing a superior quality of *pure* liquid honey.

Those who have formed an opinion of liquid honey from their acquaintance with the old-time strained honey, procured by squeezing up combs with all the impurities they contain, naturally have a prejudice against it and prefer to purchase instead the more expensive article of white comb-honey in glass boxes. But when they are assured that the same quality of honey is obtained in a liquid state absolutely free from all impurities by the modern process of removing it from the combs by centrifugal force, and that this may be procured without paying for wax, wood or glass, and at from 12 to 15 cents per pounds, the subject will be viewed in quite a different light.

I am of the opinion that honey in a liquid form is to become popular among the masses in preference to comb-honey; although the latter will always retain its popularity with a large class. The former can be furnished at less cost to the consumer, and with less labor to the producer, and when we prove its desirability to them, I think I am warranted in the assertion that the demand will increase. We must place the real merits of honey before the general public, and in showing its value as food and medicine we must honestly consider their interests in inducing them to test its virtues.

In regard to methods of selling—while I appreciate that it is more agreeable to send our honey to market in bulk, and receive our returns in the same way, when it is practicable to do so, yet I see the necessity of taking the inconvenience of distributing our honey more directly to the masses.

It is unquestionable that a lucrative trade may be established among the rural population by taking the honey directly to their doors and selling in small quantities. It seems to me to be especially desirable to establish a trade with numerous retail dealers, selling direct to them, and avoiding commissions as much as possible.

In the present depressed condition of the trade, bee-keepers must unite upon some established rates for honey, else no producer can be sure of a reasonable price. Mr. G. M. Doolittle, who is well known as a producer of fine honey, has given us some valuable ideas on this point ot securing an established rate for honey, the same as for other farm products. I have recently had personal experience on this point. I had sold a quantity of choice honey in one of our Central New York cities, and should have built up a desirable trade, but that some one, fearing that his honey would not sell at all, spoiled the market by offering it at a very low figure. I think that the extremely low price created a distrust of its quality, and that actually less honey was sold than would have been had it been held at a fairer rate. Mr. Newman speaks of a similar experience.

In conclusion I repeat that this is a subject of great importance to most of us. Much has been written and said upon it, but real action has been limited. Let me urge upon each member of this association, and bee-keepers every where, to make an effort in the way of building up a home market, and thus increasing the demand for honey. One fact has proved to be invariably true, and that is, that when parties are induced to try a good quality of pure honey, they are sure to continue its use. We should if necessary furnish small packages as samples.

We must put our honey in neat and attractive packages of different sizes for family use, always consulting the tastes and wants of the consumers, and let it go to them as direct as possible from our apiaries. I am fully convinced that intelligent and associated action by all honorable bee-keepers in the line of these suggestions will, ere long, place our business upon the footing it deserves, and I shall hope to hear many favorable reports in this direction at our next session.

The Chair appointed the following committee on question drawer: Messrs. Bacon and Clarke, of Oneida, and Longstreet, of Onondaga.

The question of the superiority of Italians or black bees was discussed by Messrs. Bacon, Root, Dine, Everett, Longstreet, Clarke and Marquissee, when the convention adjourned to 7 o'clock.

The evening session commenced with the discussion upon the

Removing Bees from Winter Quarters in the Spring.

Mr. Clarke believed it depended a good deal on their condition. Warm weather and natural food were both requisite. He did not believe in taking them out of comfortable bee houses until there was something for them to do. They should be kept in if possible until the 10th of May if they could be kept quiet that length of time.

A delegate had found his bees on Monday a little disturbed; the question with him was should he lose many by taking them out if they got uneasy; he believed he should leave them in at least till he got through sugar-making.

The president thought bees should be placed in winter quarters in November, before it is very cold and if the proper conditions are observed he thought it unnecessary to take them out before April or May, his rule was about the time the soft maples were in blossom. Some of Mr. Quinby's last experiments led him to believe that the liquid portion of the feces was evaporated through the body of the bees when they were surrounded by proper conditions. This, of course, would render the so-called "purifying flight" unnecessary.

At the request of the president, the secretary *pro tem* read a communication from J. H. Nellis, secretary, which was placed on file.

SECOND DAY.

The first discussion was upon the subject of

Wintering Bees.

Mr. Clark wintered in a bee-house above the ground; size, 12x16, where he could put between 100 and 150 colonies; preferred 80 colonies in such a room, ventilated from the outside through a tube 5x10; the vitiated air escaped from the top of the building.

Mr. House had tried both methods, in and out-door wintering. This winter he had lost at one apiary on out-door stands, four; at another apiary in a summer bee-house, he lost 13 out of 60. Mr. H. recommended, for out-door wintering, a shed which could be made of rough boards; under this he placed his hives, packing them in shavings or chaff, the latter having the preference. At his home apiary in the cellar he lost as heavily as anywhere else. His losses, in all, would be probably between 40 and 50; when they wintered bad out-doors, he found they wintered equally bad inside.

Mr. Clarke saved materially in honey by wintering in-doors; saved at least one-half.

Mr. House's experience led him to agree with the idea that bees out of doors would consume more honey.

Mr. Warner had wintered out of doors, he had a few Snow hives, in which he found his bees had come through all right. The larger portion of his bees were in the Betsinger hive, and these had nearly all come through right.

S. H. Corbin had buried a few bees as a trial; he had been told that there they would consume but 6 lbs. of honey on an average.

Mr. Betsinger said he was confounded by his past experience; he did not think it was cold that killed bees; the superabundance of moisture in winter caused the so-called bee disease, but it was no disease at all. Dry and cool atmosphere must be had, or the bees must be placed where they can fly often in order to get rid of the moisture. Thick honey would carry the bees through a long winter.

Mr. Longstreet asked why not feed flour and sugar. Several questions on this point were asked and answered.

Mr. Clarke asked if honey thoroughly sealed ever grew thin.

Mr. Betsinger said new comb honey would grow thin much sooner than in old comb, because the coverings of the cell were thin; he believed that wax was never perfectly air tight.

Mr. House and Mr. Bacon agreed with the former speaker, that damp places would affect the honey.

Mr. Everett extracted all unsealed stores in the fall and gave the bees nothing but sealed combs for winter. He had wintered mostly in cellar, but the last winter had had some out doors packed, protecting them in front as well as on other sides by about one foot of packing. The cellar should be large in order to give bees plenty of air; his own 31x32; he aimed to keep the thermometer at 45 degrees, although it had run down to about 32 degrees; in a cellar of the above size he could put from 50 to 150 colonies.

Mr. Bacon had found his cellar too damp for wintering successfully, and he had accordingly built an above-ground house which he kept at about 40°. If he could get two flights, one in January and one in March, he felt perfectly safe. In his bee-house he had 107 colonies last fall and had lost but 4. He did not like cellars; upper houses could be as warm and were far dryer.

Mr. Betsinger had come to the conclusion never to winter out doors again; he had lost perhaps 100 colonies the past winter.

Mr. Clarke liked the above ground style of wintering in a house frost proof; packing the same with dry earth was better because the earth would receive the moisture.

Mr. Bacon examined every day the state of the thermometer in his bee-house, and opened or closed the ventilators as necessary.

Pres. Root did not disturb bees at all in the winter, and he paid careful attention to temperature.

Mr. Snow had succeeded well for 10 years in out door wintering; this winter had 150 colonies out doors and he has thus far found them all right, his hives had double walls and were packed with shavings and thoroughly ventilated; he gave every opportunity for the persperation to get off through the packing and thus kept his bees dry and warm.

Pres. Root gave his ideas at length mainly agreeing with Mr. Betsinger.

Mr. Snow suggested that plaster was good to absorb moisture; he found that his bees came out in the spring, even if they did eat more honey, with more comb ready for the queen to commence laying in.

Mr. Bacon said he saved in honey enough each winter by indoor wintering to pay for the cost of his house; if there were too much honey in the combs in the spring as the result of wintering in-doors he could easily take it out with the extractor.

The president gave the results in weight showing how much honey different hives would consume in different months.

Mr. Snow found that his bees did not dwindle in the spring as much when they were wtntered out of doors; if wintered in depositories the queens might commence laying early and then when a cold day came on the bees would not cover the eggs.

Mr. House believed the time would come when out-door wintering would be adopted.

Spring Management.

Mr. Bacon liked to take them out of his house once and give them a good fly and then keep them in perhaps till May. The time of setting out would differ with the season.

Mr. Jones wintered in a cellar and usually brought his bees out three or four times in the winter to fly; this winter he had not been able to take them out until lately; he had not lost any for four or five winters.

The Pres. saw several objections to giving bees a winter flight. If they have the right conditions they do not need it. Dysentery can be produced in five minutes if bees are taken out of a warm place into the cold. So those who now take their bees out may expect to see symptoms of dysentery. He thought as a rule bees are taken out of winter quarters too early. Where they were left late he had found them in better condition.

At the request of Mr. Bacon the President gave his method of packing for winter. He placed a quilt over the frames simply. When he had used a cap he found trouble from moisture.

Mr. Betsinger thought that as a rule, about the first of May he should commence to stimulate brood rearing by placing in empty combs, or changing combs—not too often—say once a week, till the middle of May or first of June.

Mr. Lloyd's experience was similar to Mr. Betsinger's.

Mr. House's experience was also similar, but he thought great care should be exercised or more injury than good might be the result. He advocated keeping the bees as warm as possible, by protection over frames and by contracting the entrances when necessary. He thought if the weather continued warm he would leave them out for for two or three days to clean up—dry up a little.

Mr. Everett planned to set them out in one row in spring, made a temporary shed over them, protecting the hives with straw, and so kept back their tendency to fly. He thought spring protection as necessary as winter.

Mr. Van Deusen indicated the time by reference to the bloom in different localities.

Mr. House wanted his bees to breed early.

Mr. Jones urged that bees could not be quiet and breed at the same time.

Mr. House hardly thought that brood rearing made his hives uneasy.

Pres. Root said there was no particular advantage in rearing one bee and losing two; all his attempts to stimulate early breeding had resulted in failure, hence he did not place his bees on the summer stands till May; bees ought not to commence breeding until the same would be uninterrupted; he enlarged the brood chamber as rapidly as the colony permitted.

AFTERNOON SESSION.

Messrs. Marks, Betsinger and Jones were appointed a committee to examine and report on implements on exhibition.

The next order of business was announced to be the election of officers which resulted as follows:

President—L. C. Root, Herkimer Co.
Vice President—W. E. Clarke, Oneida Co.
Secretary—Geo. W. House, Onondaga Co.
Treasurer—R. Bacon, Oneida Co.

The President announced the following honorary Vice Presidents: B. O. Everett, Toledo; J. Van Deusen, Sprout Brook; Samuel Snow, Fayetteville.

Mr. Clarke invited the convention to meet at Utica, for its next session.

The next annual meeting was fixed for Utica, and the time was made the 11th day of February, with a three days' session.

Controlling Swarms.

Mr. Bacon. When a swarm came out that he did not wish to have remain, he cut out all the queen cells from the parent hive; then he allowed the swarm that came out to remain out till night; then he replaced them in the home hive and they did not come out again.

Mr. Betsinger found the treatment different for Italians and blacks, and Mr. House agreed with him; when the Italians wanted to do anything, they generally succeeded.

Mr. Bacon found too much swarming spoiled the honey crop.

Dr. Marks wanted the Italian bees to swarm once, and in 7 or 8 days later he distroyed the queen cells, all but one; if he has a fertile queen he destroys all the cells and introduces her.

Mr. House, after the bees swarmed once, found but little trouble in controlling remaining swarms.

Mr. Stewart removed two cards of brood with the queen into a new hive and put it on the old stand with simply frames.

The subject was further discussed by Messrs. House, Marquisse and Betsinger.

Mr. Everett gave the bees plenty to do, plenty of boxes to fill, which kept them from swarming. When he made new colonies he did so after the honey season, taking one comb from each hive, enough to make a new hive. Supply the place of the comb taken away in each hive by foundation.

The chair thought Mr. Everett's plan a good one; he could prevent swarming by using the extractor, if all other efforts failed; furnishing a young queen had a tendency to prevent swarming.

Mr. Snow furnished plenty of box room, and then if the bees did not go to work he removed combs with honey to the center of the hives and partially uncapped them.

Mr. Betsinger said after the white honey season was two-thirds advanced and had hives partially filled, if he wanted the boxes completed to simply move the comb containing the most honey to the center, uncap and the bees will put it in the boxes.

How to get Prolific Queens.

The chair said if the colony was strong it was an indication that the queen was prolific.

Mr. Betsinger gave these tests for a fine queen. A queen should be good size, taper well; she should skip no cells in laying; she should not lay eggs on the edge of the cell; she should not act like a cripple, and occasionally a fine queen puts two eggs in a cell.

The president would judge of the general appearance. Experience will assist in determining when a queen is worn out, or becoming infirm. To secure good queens we should use selected stock and breed in localities where they have the range of a large territory. Above all things he wanted prolific queens. The cheap queen traffic he denounced as only harmful.

Comb Foundation.

This topic was next discussed. Mr. Betsinger pronounced it a failure. Mr. Bacon fought it in surplus boxes, but was not opposed to it in brood chamber.

Mr. Warner had used it in brood chamber. It worked well in some cases, in others badly. About seven out of fifteen melted down; others sagged so that cells were stretched. Had used it as small starters in boxes and found bees accepted it well—about as well as natural comb. He was opposed to adulteration and did not think its use as starters in honey boxes was adulteration.

Mr. Clarke did not think the use of comb foundation in the boxes was adulteration. He had been successful in using it in the brood chamber. In honey boxes he used white foundation and the bees did not accept it. In using the dark foundation he was more fortunate, but he did not think it could be depended on.

Mr. Marquisse gave his experience with comb foundation, which was unfavorable—the comb falling and stretching badly.

Mr. Everett with his method of using foundation was successful and would not dispense with its use.

Mr. Betsinger had trimmed natural comb down to the thinness of foundation and found that it was accepted and finished more readily than foundation. If foundation stretches more than one-half inch in nine inches, it is made of impure wax. Bees will only work on foundation when compelled to, and he pronounced it a failure.

Mr. Van Deusen had experimented with foundation. His son's plan was to place small pieces of it on cross bars in brood frames and insert the same in brood chamber until the bees lengthened the cells. Then remove and use for starters.

The president did not object to foundation in boxes on the ground of adulteration, but on the ground of its being artificial. He approved of its use in brood frames. To prevent sagging he would use the wired foundation.

Mr. Betsinger claimed that the wire in foundation was death to the brood, as it corroded. He had tried it and was satisfied of the truth of this.

In answer to a question, the president thought foundation 6 feet to the pound the best weight.

Mr. Everett thought the bees would use the wax of the foundation and so save the consumption of honey. He thought they would even thin the base of the cells and use the wax for lengthening the side walls.

Mr. Clarke thought the bees did not accept the white foundation as readily as the darker, because of its being harder.

At 5 o'clock the convention adjourned to examine apiarian appliances on exhibition.

Mr. Bacon showed some samples of glucose and grape sugar, and then explained their manufacture. He understood that 10,000 bushels of corn were daily used in Buffalo in the manufacture of these articles.

EVENING SESSION.

Treasurer Bacon raised the question as to the cause of the uneasiness of certain colonies of bees while in winter quarters. The president gave his views, ascribing the presence of parasites as one prominent cause. He had discovered nine varieties of these pests. Some of these are so minute as to be present in the pores of the wood, as he had proven by certain tests. He hoped our scientific bee-keepers would thoroughly investigate this matter.

The president suggested the offering of prizes for the best essays and the best apiarian implements. To that end, Mr. Clarke offered a resolution that the executive committee be empowered to offer prizes not to exceed $30.00, for such essays and such implements. Carried.

Article III. of the constitution was, by vote of the convention amended so as to read: "The officers of this association shall consist of a President, Vice President, Secretary, and Treasurer, who shall constitute the executive committee, and whose duties shall be those usually assigned to such officers, and their term of office shall be one year, or until their successors shall be elected.

Mr. Betsinger had met with good success in introducing queens, by caging the queen and pressing the sides of the cage into the comb and cutting through the comb from the opposite side, and by the time the bees remove the leakage and mutilated comb and so release the queen, she is accepted.

Mr. Everett did not cage queens on introducing, and was sucessful in nineteen cases out of twenty. He would not wait after the removal of the old queen, but introduce at once.

The president reviewed the various popular methods of introducing. Mr. Everett recommended beginners to buy nuclei and build them up, instead of trying to introduce valuable queens into old colonies. A general discussion followed on the formation of nuclei.

The respective merits of natural and artificial swarming were then discussed. Mr. Betsinger approved of artificial swarming, and thought natural swarming indicated a lack of knowledge. The president approved of building up colonies by taking one frame of brood and bees from a sufficient number of hives to form a colony. The question of migratory bee-keeping was raised by Mr. Potter. The president had moved his bees 6 miles to a basswood locality, with very satisfactory results. Capt. Hetherington had also practiced this. Mr. Perrine's experiment was also referred to.

The question of teasels as honey plants was briefly discussed.

A resolution by Mr. Potter inviting members of the association to bring to the next convention, samples of hives, smokers, extractors, and any other apiarion implements they desire either for exhibition or sale, was carried.

THIRD DAY.

Removing Pollen from Old Combs.

Mr. Betsinger asked the question how can pollen be removed from old combs? It was answered as follows:

One method is to place the comb in a liquid until softened, then use the extractor.

Mr. Clark had the comb very dry when he put it in the hive, and the bees would generally remove it.

Mr. Betsinger said this would do if combs were mouldy and pollen dry, but this was not always the case, and then combs had to be destroyed.

The committee on implements reported individually. Mr. Jones reports favorably on all the exhibits. Mr. Betsinger would agree with this report but excepted comb foundation.

Feeding Grape Sugar.

Messrs. Clark and Betsinger had had no experience in feeding grape sugar. Mr. Everett had tried it once, but found his bees would not eat it unless he disguised it by mixing honey with it. He gave it up as a failure.

The president had tried it as an experiment and pronounced it a failure. The bees stored it in combs and he found it worse than pollen. In taking it out the bees chewed up the comb, dropping the grape sugar. The two colonies to which he fed it died. He had some left which he was anxious to dispose of cheap, and if any one wished to experiment with it he hoped they would apply to him.

On motion of Mr. Bacon the president appointed Mr. Betsinger, Mr. Nellis, Mr. House and Mr. Bacon delegates to the national convention.

On motion of Mr. Clark, President Root was appointed as one of the delegates.

The following resolution was unanimously adopted:

Resolved, That the thanks of this association are due, and are hereby tendered, to the Syracuse Board of Trade, and especially to Secretary Agan, for the use of their rooms for the sessions of this convention, and for other courtesies shown us.

A motion that the delegates to the national convention be required to give a written report of the proceedings to this convention at its next session, was carried.

The question of continuing the statistical table was taken up and a general discussion followed *pro* and *con*. It was finally decided to discontinue it one year.

The following committee was appointed by President Root to consider the question of a statistical table and report next year: M. B. Warner, W. E. Clark and R. Bacon.

An extract from a letter from the Messrs. Thurbers in regardto the adulteration of the shipment of honey made by them to Liverpool was read by Secretary House, claiming that reports of adulteration of the American honey against them are false, and charging it against English bee-keepers as an attempt to discourage the shipment of our honey to their market.

A resolution was offered and accepted, that the executive committee be directed to devise means of successfully introducing our honey in foreign market.

It was moved and seconded that the meeting tender a vote of thanks to President Root. Carried. The matter of procuring rooms, etc., for the next annual meeting at Utica, was left to Messrs. Clark and Son, of Oriskany, to perfect.

On motion the the meeting adjourned to meet at Utica, February 11, 1880.

The Question Drawer.

The question drawer was opened and questions answered by Mr. Clark as follows:

Q.—Which is the best hive for extracting honey, a long hive or a two-story hive? A.—Two-story.

Q.—Is it good to take combs from an old hive in which bees have died and give them to a new swarm? A.—All combs should be preserved for future use.

Q.—How soon is it advisable to commence queen rearing? A.—Not until honey is gathered freely.

Q.—What is the advantage, if any, in side section boxes? A.—Side boxing is essential in connection with top boxing.

Q.—How early in this section should bees be unpacked for examination? A.—Unpack to examine and repack till May.

Q.—How to keep your bees strong—as strong colonies get the honey? A.—This can only be accomplished by long and practical experience.

Q.—Which are best for honey gathering, Italians, blacks or hybrids? A.—For light honey, Italians; for buckwheat, blacks or hybrids are preferable.

Q.—What time should bees be taken from winter quarters? A.—About the time soft maple blooms.

Q.—How to unite weak colonies, as it is often desirable to do in spring and fall? A.—Destroy all but best queen; cage her and brush all bees into one hive.

Q.—How often should honey be extracted in the course of a season? A.—This will depend upon the number of combs furnished. It is preferable to furnish a good supply of combs and extract less frequently—about once each week.

Q.—What is the usual price of quart cans? A.—About one dollar per dozen.

Q.—The best mode of wintering? A.—Indoor wintering is preferable. One of the committee prefers out-door wintering.

Q.—The best practical hive? A.—The practical movable comb hive you are accustomed to handle.

Q.—How much honey should be given to bees for wintering? A.—20 lbs. for indoor wintering; 25 lbs. for out-door wintering.

Q.—Is there anything to be gained by extracting closely in a time when the honey comes freely, and then, in a time of scarcity, feeding it back to the bees for them to store in boxes for sale? A.—This practice receives favor by some bee-keepers—our own experience does not favor it.

Q.—Can old bee-bread be removed from combs without injury to the combs? A.—Yes.

Q.—Shall we feed bees in spring to stimulate brood-rearing? A.—Yes; especially if short of honey.

Q.—If so, how early and how long continue the same? A.—Continue feeding until the yield of honey from blossoms commences.
GEO. W. HOUSE, *Sec.*

Fayetteville, N. Y.

Missouri Valley Convention.

Pursuant to call for a meeting of the bee-keepers living contiguous to Kansas City, Mo., a large number of people, male and female, assembled at the Court House on April 5th, 1879, and organized by appointing James F. McAdow temporary chairman.

The object of the meeting being the permanent organization of an association of bee-keepers, a committee was appointed to prepare and present a Constitution and By-Laws. The report of the committee was adopted and the following who gave the number of colonies of bees which they respectively represent, signed their names as charter members.

Those living in or near Kansas City, Mo., were J. F. McAdow, 25 colonies; S. W. Salisbury, 52; J. D. Gregg, 20; Alice Gregg, 15; E. M. Hayhurst, 85; C. H. Orrendorf, 8; Mrs. F. J. Meyer, 25; J. M. Slocum,——.

Those near Independence, Mo.—S. W. Baldwin, 204 colonies; J. D. Meador, 175; F. J. Farr, 130; P. Baldwin, 125; J. W. Cook,——.

Wyandotte Co., Kan.—W. P. Hogarty, 75 colonies.

Johnson Co., Kan.—Mrs. J. A. Nelson, 34; James Passmore, 100 colonies.

Westport, Mo.—Henry Segar, 50 colonies; Martin Wyman, 35.

Clay Co., Mo.—James H. Jones, 30 colonies; George Houston, 17.

Greenwood, Mo.—Wm. M. Kitterick, 104 colonies; Jacob Mollett, 20.

The convention permanently organized by the election of J. D. Meador, President; P. Baldwin, Secretary; Wm. M. Kitterick, Treasurer.

PRESIDENT'S ADDRESS.

Ladies and Gentlemen:—If my wishes had been consulted, a gentleman of this city who has been largely instrumental in calling together this assemblage would have been selected as your presiding officer. We are associated together, not alone for the benefit of the bee-keeper, but also of the fruit grower of the entire community. We seek for light and knowledge in every department not incompatible with our own. Some fruit growers believe that bee-keeping is detrimental to their interests and we should invite discussion and investigation. If their views are correct, let us know them; but if erroneous, let us convince them of the fact. The interests of both are extensive. Two thousand colonies of bees are represented by the persons here assembled, the annual surplus production of which may be safely estimated at one hundred thousand pounds of honey at a marketable value of nearly twenty-five thousand dollars. The fruit crop in the neighborhood of our bees is probably quite as extensive and possibly much larger. Is there anything incompatible with their existing together and possibly assisting each other in their development? Have not some of you noticed the present condition of the *pear* bloom? The bloom is not fully developed—the recent cold snap has impeded it, and side by side you will find two embryo blossoms, one dead and one alive, or rather *several* dead and *one* alive; the dead bloom being covered with a sort of fluid-like gum, but so tenacious that the bloom could not burst it. This gummy substance is nectar or honey which has not been removed by either moisture or insect and has destroyed the fruit. Had the weather been warm enough, for the bees to work, we should have seen nothing of this and more abundant young fruit would have resulted. A few years ago one of my neighbors insisted that the honey bee greatly injured his fruit raising. The spring was cold and in time of peach bloom no bees could fly—one evening, however, for about an hour my bees came among my peach trees in great numbers, and visited most of the flowers. My neighbor's orchard was scarcely 40 rods off but no bees visited it. I called his attention to the fact and assured him that I should have peaches. He said time would tell and sure enough it did, for I never had a more abundant crop of peaches and he did not raise a single peach. I believe he became satisfied that bees were no detriment to peaches, especially in blooming time.

I thank you for the honor you have conferred upon me and beg indulgence for such errors as I shall doubtless commit. Let us now proceed to business.

REPORTS.

J. M. Slocum does not keep bees, but raises small fruits quite extensively. Last year he was peculiarly unfortunate, getting only small yields of almost everything on which he relied for the support of his family; and it was absolutely impossible for him to market a single peach of the earliest varieties, in consequence of ravages of the honey bees. Frequently from 15 to 25 bees would gather on a single peach; in short they destroyed his crop. As soon, however, as his grapes began to ripen, the bees left the peaches for the grapes and thus gave him a chance to market his late peaches, while destroying his grapes. He has 800 grape vines and ought to have realized something like $200.00 for the crop, but in fact was only enabled to market $30.00 worth last season. He feels injured and aggrieved in consequence, and would like to have members of this association help him out of his dilemma. Being first on the ground, have others the right to locate near enough with their insects to destroy his revenue and starve his family? Some say that bees cannot puncture the skin of fruit and only work where an opening has first been made. Now, we know that bees have mandibles or jaws and can bite, and Mr. Hayhurst has told me that they could gnaw through thick muslin cloth and had done so for him; and why cannot they bite through the skin of a grape or peach? I never saw them make the first puncture, but I have brushed them off a grape when there was only a small puncture and fresh juice exuding therefrom.

W. P. Hogarty read portions of reports of different conventions from pages of the AMERICAN BEE JOURNAL, wherein the subject of "Bees Injuring Fruit" was discussed, showing that the honey bee is not guilty of the damages laid to its charge. He also gave his own opinion to same effect.

Wm. M. Ketterick has always kept bees, and for a long time nearly or quite 100 colonies. Also raises fruit of various kinds. Never knew his bees to injure any kind of fruit or grapes, except last season when it was very dry and there were no flowers; the bees did then work in his grapes. Has different kinds of grapes, and bees worked in some kinds worse than others. The kind however, that his bees seemed to like best was Diana; he found so many stung with some kind of insect that they became wormy and worthless. His wife could not use them for pies as was her custom, by reason of the worms. Did not think the puncture where the bees first started to work was made by the bees, but by some other insect. So with the peach—never saw bees harm a sound peach, if ever so ripe.

S. W. Salisbury has several hundred peach trees and over one acre of grapes in bearing. Had last autumn 70 colonies of bees and his neighbors nearly as many more; he never saw bees in any numbers in his vineyard. His grapes were not harmed by bees in the least. Peaches should be picked before they are mellow and then the bees get left. You will then see in many cases the skin broken by the blue jay, the katydid or the grasshopper; not enough possibly to injure the peach but enough to enable the honey bee to get a start as soon as the peach ripens. Cannot blame the honey bee for seeking moisture and food in every convenient location and should in fact blame it if it did not. He hates loafing bees as well as other loafers. He likes to see them work and especially when he knows that fertilization of fruit bloom largely depends on the agency of honey bees; he would not begrudge them a small share in the fruit so essentially their own.

ORDER OF BUSINESS FOR NEXT MEETING.

1. Adulteration of honey? Disquisition by Dr. C. H. Orrendorf.
2. In what shape shall honey be put up for market? Disquisition by J. Passmore.
3. Which is the best way of increasing, by natural or artificial swarming? Disquisition by L. W. Baldwin.
4. Are bees injurious to fruits? Disquisition by W. P. Hogarty.

Convention adjourned to meet at the same place on the first Friday in May, 1879.

P. BALDWIN, *Sec.*

Our Letter Box.

Chillicothe, Mo., April 2d, 1879.

As soon as I can steal a moment, I will write you my experience in packing bees in prairie hay. Mine were in square shallow hives (said to be the poorest for wintering), packed as tightly as could be all over but the fronts. They had but very little ventilation, and that below at the regular entrance; and in 12 years' experiments and experience, I have never before had bees come through in so good condition. They are all strong with bees and brood for this time of year, and yet it does not appear that they have consumed on an average 5 lbs. of honey. This proves that bees need to be kept comfortably warm, and need little or no ventillation in cold weather. I have always before had some weak colonies and moldy combs; this year but a single colony showed any signs of dysentery.

J. W. GREENE.

[We should be glad to have Dr. Greene give "his experience," as suggested, to our readers. The successful ones should be able to tell us "how to do it," if any one can. —ED.]

Wenham, Mass., April 3, 1879.

Bees have wintered very well hereabouts. We had 7 inches of snow on Monday that will cool them off some. I saw bees carry in pollen on March 26th—very early for these parts.

H. ALLEY.

Berkshire, N. Y., April 1, 1879.

Last season I had very good success in getting combs started straight in the frames, by painting the guides with beeswax and resin, and then putting natural starters in each frame. These starters secured worker comb in almost every frame. I find, when combs are started straight, they get crooked before they get to the bottom, especially if the frames are deep. I can get them started straight, but the trouble is to keep them so.

1. How shall I manage ?

2. Would not sheets of tin between the frames be as good and cheap as wired foundation ? These separators might be used many times for the same purpose. Next season I want to use a frame 12¾ inches square inside. It will hold nine 1-pound sections. Will it be too deep, on account of combs getting crooked before they reach the bottom ?

There is a great loss of bees in this section this spring. Many people are disgusted with bee-keeping. WM. C. LEONARD.

[1. To use a shallow frame, such as the Langstroth, and have a deep top-bar, will usually secure the building of straight combs.

2. We do not approve of separators between the brood-combs. They take up room ; are a cool division for the bees, and are quite unnecessary, if other conditions are complied with ; 12¾ inches is too deep for any frame, according to our ideas.—ED.]

Lake City, Minn., Dec. 17, 1878.

While other bee publications are valuable, the AMERICAN BEE JOURNAL is the one I must have, if I take only one. While it is filled with practical information for bee-keepers, I admire the position it usually takes on the controversial questions among bee-keepers and dealers and inventors of bee furniture. It evidently believes in fair play and no gouging, and denounces fraud wherever found. I have sometimes noticed that some bee papers seemed to be careful not to give any very definite description of hives or other bee apparatus but such as they are personally interested in selling. We like to see full descriptions of all that is offered to the bee world, that we may judge for ourselves what we think of them. Some writers for the JOURNAL seem disposed to mix in some of their own theology. I prefer to put the theology in to suit myself and save the space in the JOURNAL for what the writers know about the bee business. Some of their theological flights are ludicrous. I had a little experience last season, touching the questions whether bees ever transfer eggs from worker cells to queen cells ; and whether the eggs that produce drones are any different from those that produce worker and queen bees. I am not going to give it now, because, if verified, it is so different from what is taught in the books that I dare not give it until I have tested it again. One writer in the JOURNAL some months ago, was very positive that bees never transfer eggs from worker cells to queen cells. I think it will prove a mistake. Again, if it shall prove that bees remove eggs from worker cells, not only to queen cells, but, from the same comb to both queen cells and drone cells, and one part hatches queens and the other drones, then what will become of the theory that eggs which produce drones are not impregnated with the spermatic fluid ? Or, that virgin queens lay eggs that produce drones ? Long live the AMERICAN BEE JOURNAL ! D. K. BOUTELLE.

Rows, O., March 28, 1879.

In January, when brushing dead bees from a hive, I threw out a live female moth miller, which started over the snow for another hive, it seemed to me, but I caught it and put it away. Is it not a rare thing to see in winter ? In February I saw an old queen leave the top of a hive, where the bees were sunning themselves on the top of the frames. She flew off into the air, and returned within 15 minutes. There is great mortality among the bees. C. C. FUNK.

[Both of the cases mentioned are novel and rare. The moth must have obtained warmth from some source.—ED.]

Winona, Minn., April 3, 1879.

I see by the BEE JOURNAL, that this has been a hard winter on the bees. This locality has not been an exception. There is but one, beside myself, who has not lost more or less ; and a good many have lost heavily. One party has but 15 colonies left, out of over 70 last fall. Our bees were bringing in pollen very nicely last week, but it is very cold again now. Success to the JOURNAL. L. A. PENNOYER.

Chesterville, O., April 3, 1879.

In the AMERICAN BEE JOURNAL for April, page 166, in the description of a surplus box made with the cap, is an error, either on my part or yours. It will hold 24 sections, the size given, instead of 21. It is suspended from a piece (not *edge*, as there stated) made of plastering lath. Spring dwindling is heavy here among colonies that are on their summer stands—many losing all their bees by their venturing out on days that are too cool, and not being able to get back. I think a bee ought not to be permitted to fly when the thermometer is under 50° above zero. Very little dysentery prevails so far as heard from. I have lost 6 colonies, as follows : 1 queenless, 1 dysentery, 4 spring dwindling. Heavy snow storm at this writing. Snow 5 inches deep. DR. J. W. WILLIAMS.

Malcom, Iowa, March 24, 1879.

The month of March has been a hard one on bees. The late cold spell having killed a large number of them. Small colonies not having much brood, were so reduced as not to be able to keep up the heat and perished in their combs. I hear of much swarming out of their hives this spring, even where they had a plenty of honey—some went out leaving brood, even. Strong colonies are the only insurance for bees. Young bees raised in September are a *necessity* for safe wintering. Breeding can commence in February and when the old bees disappear there remains a fine lot of young bees; these will stick to the hive and not swarm out even if the old bees should go.

WM. CLEMENT.

Waco, Texas, April 5, 1879.

I can handle bees sucessfully and get a plenty of honey, but after a little fun and sweet, early in the spring, all the rest is too bitter and too hot for use. After keeping through the winter the peppery taste leaves it, but the bitter remains. Can you, or any of the bee-keepers give a receipt to cure the bitter in my honey? We think the bitter comes from horehound, which is very common about the older towns, and the hot from a large weed with the common name of "brushweed." We have nothing but corn and cotton in the fields to make honey out of. No basswood, clover, nor buckwheat, nothing but the wild prairie flower and the willow, except a week or two, early, when the fruit trees are in bloom.

E. P. MASSEY.

[Mr. R. Corbett gives the following as a cure for "hot" honey. "Boil it, taking off the scum, and put it into a bright pan or kettle. This will not change its color, but will render it palatable, so that it will not disagree with the most delicate stomach." For the bitterness we have no recipe at hand.—ED.]

Fairport, Mo., April 8, 1879.

A man has traveled through this section, claiming himself to be one K. C. Kidder, from Burlington, Vermont, giving lessons and lectures on bee culture; also claiming to be agent for the BEE JOURNAL, and selling rights for patent hives. He is an imposter and all bee men should be on the watch for him.

A. H. SYLVESTER.

[He is a regular fraud, and should be given a wide berth.—ED.]

Mendon, Mich., March 7, 1879.

Last spring I fed grape sugar to my bees, and my family ate plentifully of it, as they would of maple sugar. I discovered no bad effects from it. I had 8 colonies, and increased to 29, and received nearly 1,000 lbs. of honey. The bees are now all lively and healthy, and were wintered on their summer stands. I believe grape sugar is perfectly harmless as food for man or bees; yet, I shall never use it again, and would advise every honest bee-keeper not to touch it, as I would advise every one not to touch liquor or tobacco, because it will do ten times the harm that it will good to the business of bee-keeping and honey-producing. All adulteration of honey should be stopped, and all chance to accuse bee-keepers of doing so should be prevented. These are my reasons. I would advise all who wish to Italianize, to buy dollar queens, rather than tested ones; for the former will lay about $3.00 worth of eggs while being tested, and if pure she and her brood are worth $5.00. If she is not pure she and her brood are worth at least $3.00; so you are $2.00 ahead, and can try again. But if you buy the latter, the breeder has this brood, and if pure, an extra dollar, too; if not pure, he has a hybrid colony for $1.00. I might enlarge, but you say "boil down." I hope your correspondents will take the hint, instead of "boiling up" and giving us nothing but vapor. If they would, how much room they would make for valuable reading. In these long articles the reader is lost in the wilderness of words and phrases, and seldom gets the idea, getting the weight of the article, instead of the weight of the argument.

E. B. SOUTHWICK.

[The object in obtaining Italian queens is to Italianize—not to hybridize! Therefore, the time consumed in testing is "lost time!" The brood obtained from a hybrid queen is a troublesome nuisance, instead of being a valuable acquisition. The queen and her brood, instead of being worth $3.00, as stated above, are not worth one cent, so far as accomplishing that for which the queen was obtained. Of course, all will "do as seemeth them best," but we have no use for untested queens.—ED.]

Vandalia, Mich., March 5, 1879.

In 1877 we commenced bee-keeping with 12 colonies, and by the aid of good reading matter we have made it a success. In 1878 it rained during apple bloom, and we had to feed them till white clover came. This bloom was cut short by drouth, and we got no honey from it after July 15th. So we had only a month in which to get surplus, but in this short time we extracted 1,000 lbs., and increased to 48 colonies. We sold all our honey at home at 10@15c. per lb. We stimulated in the spring by feeding sweetened water, reared our queens, and increased by building up nuclei. In November we put straw in the tops of the hives, and put in the cellar, where they have remained ever since, seemingly in good condition. The straw in the top of hive is 4 inches deep, and is held down tightly by the top-board, and it is surprising to see how all the moisture collects, passes through, and forms water under the top-board, while the bees and under part of the straw seem to be dry. We want no better absorbent than this. We keep the cellar close and dark in the day time, and open at night when it is warm.

C. F. & F. E. SMITH.

Albion, Mich., April 14, 1879.

I put 35 colonies in cellar under house and they are all strong but one; there were a few bees and those we put into another colony. Another lot of 55, one mile from here, that we purchased last August, with a few others we put into another cellar, and they are all right but 3; good and strong, better by one-half than those of last year. I don't think they have used up more than 5 lbs. of honey per hive yet. I don't want over 10 lbs of honey in the hive to winter. It is a plenty for the hive that I use, while the Langstroth needs 30 lbs. I only want 10 lbs. in the Michell Adjustable hive, because I can pack or line them all round the ends of frames and let the carpet come next to the honey at the side of the frames, and then put the division boards against the cloths, and one-inch of cotton batting on top and another piece of carpet over the whole, keeping them warm and quiet.

A. GRIFFES.

Lawrence, Kan., April 9, 1879.

I have sent you a little invention of mine for controlling the entrance of a bee hive. It is simple and effectual; you have only to screw it on the front of any hive, putting the slides in the groove; it is intended for a 6 inch entrance, which I fancy enough for any hive; the holes are ⅜ inch diameter but may be made less if desired. I am feeding my bees candy, with my "combination feeder," it answers admirably, and I have enlarged the size of the box in depth, by making the hole in the cover large enough to admit the thick part of the bottle, the neck passing through the hole in the bottom.

W. O. CARPENTER.

[The device is practically the same as that used in the New Langstroth Hive. It is very serviceable.—ED.]

Norville, Mich., April 18, 1879.

I am on the list of "blasted hopes." Up to this date I have lost 10 out of 25 colonies. Some of my neighbors have lost all; some one-half. As near as I can learn 50 per cent. of the bees are dead that were in box hives unprotected this winter. This will learn bee-keepers that if they desire success they must take good care of their bees. The man who takes good care of his stock as a general rule is successful in wintering "the blessed bees."

E. WEEKS.

Colfax, La., April 6, 1879.

I am very much pleased with the New Langstroth hive you sent me. All of my neighbors say it excels anything they have ever seen and I must say that I am perfectly delighted with the honey rack and prize boxes. Bee-keeping is in its infancy in this section and but few people here ever saw any thing of the kind. How do you account for the wild bees in this section never gathering any honey, when our domestic bees gather so much? There are thousands of wild bees here, but it is seldom you can cut a tree down that has honey enough in it for two choppers to eat; it makes no difference what time in the season that it is cut you find no honey. We have plenty of white clover bloom from the middle of March until the first of July, and a variety of other honey plants. Our cotton last year was excellent bee pasture and my bees filled their brood chambers full of honey from the cotton-bolls; I will tell you how I came to watch them so closely. I had purchased 4 colonies of beautiful Italians which cost me about $50.00, and of course I felt very anxious about my Italians as they were doing magnificently when all at once my neighbors commenced poisoning their cotton to kill the cotton caterpillar; they used arsenic and Paris green in several forms in solution, with ashes and flour. I concluded to take the chances; so I commenced to visit the poisoned fields and watch for my Italians, as they were the only Italians in the whole county, and sure enough they came by thousands and the poisoned cotton seemed to have an attraction, as it appears to me, they were thicker there than they were on cotton that had not been poisoned. In a few weeks they had gathered the brood chamber full of honey, and not a bee was killed that I could discover.

JAS. A. DANIEL.

[We know of no good reason why the trees inhabited by wild bees should not contain honey, if the location be a good one, and the cavities are of sufficient size.—ED.]

Skaneateles, N. Y., April 18, 1879.

There has been a great loss of bees in this locality. N. N. Betsinger had a month ago lost 100 out of 180 colonies. Another apiarist has lost 60, and many others have lost heavily. I have lost only 2 out of 37, but fear I may lose more. WM. R. EDWARDS.

Catskill, N. N., April 18, 1879.

I hear great complaint about loss of bees. A correspondent in Tompkins county informs me of a loss of 62 out of 67. The loss is as far as I can hear about one-third here. I have not lost a single one as yet, but I will have to feed a few. They commenced carrying in natural pollen about a week ago, gathered I think from spice wood, which abounds here. The season is at least 3 weeks behind 1878.

E. H. WYNKOOP.

Mt. Clemens, Mich., 19, 1879.

On the 15th inst., I went out to the Chesterfield apiary and opened up the pit which contained 48 colonies. This pit was ventilated with 11 2 in. pipes runing down into the pit so far as the straw. We commenced opening the pit at east end, not finding a living colony until we struck the 28th colony, from this to the end of the pit, we found 7 more, making 8 colonies out of 48 buried last fall. The portion of the pit which contained the living bees was covered by a heavy snow-drift to which we give credit for the lives of our bees. I went to Davis' apiary yesterday, 12 miles distance from here, by the time we got there the wind was quite high and cold. We commenced to open up the pit, took out one hive, found it in good order; opened number two, found it better yet being in very fine order, closed number two and covered it with earth. This pit has no ventilation and is on clay ground, the Chesterfield bees were buried on sand. I intend to take out the Davis' bees on the first fine day next week. I will report to you their condition as early as possible. I have canvassed the country very closely and find fully nine-tenths of all the bees dead. They are even dead in the old reliable old fashioned hives, and they now come with, I wonder what's the matter? They don't come with, "I told you, I knew your bees would die this time." I know of some who have failed in the old adage, "I don't sell for fear of selling luck" and "I don't see for my life why they should lose their bees." Well it's hard times and the bees could not withstand the pressure. My honey crop is nearly disposed of, in spite of hard times, &c. I want what I have left for feeding, should I need it. Let us brace up and look for that great crop of honey which no doubt will come into our hives this year. I hope none will fail to report their losses this winter. This is the third winter that I haye had ill-luck in wintering, but have done well in getting honey, so I am bound to try again. WM. PERRY EVRITT.

Jerome, O., March 28, 1879.

I am well pleased with the AMERICAN BEE JOURNAL. I like its policy—holding up honesty at all times and frowing down rascality and humbug. Is maple syrup good for bees? I had 3 swarms come from 1 colony, that proved not to have a queen; they would breed drones but no workers. I gave them frames from my Italians full of brood and new laid eggs but they failed to raise a queen and dwindled down to nothing. What should I do in that case? I lost all three. I use the American hive. I wintered in-doors and none were lost.
S. H. RUEHLER.

[Some use maple syrup with success when mixed with one-sixth the quantity of honey, for feeding bees, but honey is the best bee food. A colony failing to raise a queen should be united with another having a fertile queen.—ED.]

West Bay City, Mich., March 22, 1879.

Last spring I commenced with 6 colonies of bees; increased to 11; got 700 lbs. of surplus honey and sold it for 13c per pound.
H. S. WALRATH.

Fish Creek, Wis., April 14, 1879.

My bees have wintered well that I got of you last June, in a shed that I built, 12x6, with no double walls nor sawdust about them. I merely banked the snow round the bottom outside. They had their first flight on the second of March. It has been a long winter for them here. WM. DARLING.

Shreveport, La., April 12, 1879

Tinned wire, so far, is a success with me for the brood chamber. Bees hatch as well over the wire as in any of my combs. If the wire stands the test the rest of the season, I will use it hereafter in all the combs. I do not consider foundation a complete success without something of the kind.
C. R. CARLIN.

Lansing, Mich., April 13, 1879,

In the spring of 1878, I began with 5 colonies of Italian and 1 of hybrid bees; the latter I Italianized. They increased to 28, and 3 swarms left us. I took from them over 200 lbs. of extracted honey, but very little in surplus boxes as I wished to increase my stock of bees. Seven of the number swarmed naturally; the remainder I divided. I think our location for bees could not be excelled, as bee pasturage is abundant. I use the Langstroth hive and winter in the cellar. I gave them a fly the 8th of March, and all were alive and doing nicely; brood in all stages; I removed them to the cellar the same day and did not disturb them again until April 10th. I have them all on their summer stands, I hope for the season (if weather keeps favorable). They are as bright and active as ever. The AMERICAN BEE JOURNAL is a great benefit to me; I could not well do without it.
MRS. J. W. GARLICK.

Lavansville, Pa., March 18, 1879.

1. Can swarming be prevented so as to put an apiary in a non-swarming condition when worked for box or comb honey?

2. A bee-keeper having several apiaries 6 to 8 miles apart, if the colonies could be arranged so as to be non-swarming, could manage his bees without having an assistant to continually watch during the swarming season, and also secure a much larger quantity of honey if the swarming desire or fever could be controlled at will of the apiarist. H. H. FLICK.

[Experience proves it to have always been more labor to prevent swarming than to attend to it, in most localities.—ED.]

Battle Creek, Mich., April 17, 1879.

The Southern Michigan Bee-keeper's Association, held a convention here yesterday. As near as could be estimated fully one-half the bees in this locality have died during the past winter—especially those wintered on summer stands—while quite a number were lost in the cellar, and are now dwindling. I packed mine in chaff hives, without loss except a small quantity of bees to each hive. B. SALISBURY.

Independence, Mo., April 14, 1879.

Bees generally have come through the winter in poor condition; ¾ at least have died in this section. Those wintered out, have been the principal sufferers. Some apiarists have lost all, while others have a few remaining in weak condition. Those wintered in-doors, especially in cellars, are doing well, with but few losses. Of an apiary of 140 colonies I have lost none, although they have been out of the cellar since January 25th. The extreme cold weather is the principal cause, I think. Some think it is honey dew stored in July and August. Those in box hives have suffered most. P. BALDWIN.

De Kalb Junction, N. Y., April 4, 1879.

My bees are in the cellar yet, all alive and in fine condition. I presume they will remain there till quite late in May. There is from 2 to 5 feet of snow in the bee yard at this date, and this morning the thermometer was nearly at zero, and at 11 a.m., the windows are so covered with frost that I cannot see through them, while the JOURNAL reports bees working finely in the Southern States. My honey crop amounted to a little over 5000 lbs. of comb honey last season, in 2 and 5 lb. boxes; sold for 15c per pound in Boston. I have wintered my bees in the cellar for nearly 20 years, and seldom lose a colony unless one starves; and they remain in cellar from November until May, as a rule. I have wintered 165 colonies in one cellar without loss of one. My plan of preparing bees for winter differs but little from others; no upward ventilation is allowed, and all are raised at least one-half inch from bottom board. If any need to be fed, it is done just before they go into winter quarters, and all at once. A damp cellar is better than a dry one.

Ira Barber.

Grass Lake, Mich., April 18, 1879.

I lost 17 colonies this spring; some froze, but 9 of them left their hives which contained a plenty of honey, lots of brood, &c. Some of them went into other hives and got killed. Some were rather weak, but others were strong. One of my neighbors had 3 colonies in box hives. They were in good condition and wintered well. All of them went off in an hour, about 10 days ago. They left about 75 lbs. of honey. What was the cause of their leaving? P. Krell.

[Either the hives were foul from disease, they contained sour honey, or there was some disturbing cause, making them undesirable as a *home* for the bees. We know of no other good reason for the results you mention.—Ed.]

Bluffton, Iowa, April 15, 1879.

I put 74 colonies, in the cellar the 24th of November, where they remained 125 days without being taken out for a flight. I lost but one, which was queenless, and had not over a quart of bees last fall. My cellar is dry, temperature kept from 38° to 43° above zero, (35° is better in a dry cellar). No dystentery or other disease. Many hives were crowded with young bees when taken out. No spring dwindling so far. I never extract from the hive in the fall. The more honey in the hive in the fall, the better they do for me the next season. Half of the bees wintered on summer stands, or without thorough protection from cold, died throughout north-eastern Iowa during the past winter. O. E. Cooley.

Maysville, Ky., April 8, 1879.

As every bee-keeper has his own peculiar hive, frame, or feeder, that he considers superior, I am no exception to the general rule, and I will tell you how mine is made. The Langstroth is the frame for this section of country, and is the one I like. I use the regular two-story Langstroth hive, with the exception that the bottom and top story are the same size, with a strip 2 inches wide nailed around the bottom edge of top story, to hold the top and bottom story together when in use; instead of a honey board, I use a cloth made out of common brown drill, prepared with a coat of beeswax and resin, put on by dipping it into the mixture when melted. My feeder is made by taking a light wooden box, 10 inches square, more or less, 4 inches deep, without a bottom or top; take a piece of bed ticking, 1 inch every way larger than the box, and with small tacks fasten the cloth to the sides of box, drawing it tight as you put in the tacks. With a table fork I punch 5 or 6 holes through the cloth, and then place the box in top story of hive, packin around it with old carpets or any warm material to keep the heat in the hive and to confine the bees to the lower story. Take 2 parts sugar and 1 of water, put in a kettle and let it come to a boil, when cool pour into the feed box, the quantity you wish to give the bees, and they will take it through the cloth. This is the best feeder I have ever used. Bees kept in box hives in this section of country have suffered great loss, but where the frame hive is used (with proper absorbents in top story of hive) the bees are in fine condition.

W. W. Lynch.

Higbee, Mo., April 9, 1879.

I have 41 colonies in tolerably fair condition. I lost 11 during the cold weather. I think my loss was occasioned by smothering, as the snow was banked up around and on top of them. Three of them were in Langstroth hives, the others in hives of my own making, taking the Buckeye frame. I had some in Buckeye hives the doors of which being sprung so that I could not close them tight, were open half an inch from top to bottom; also several Langstroth hives with upper story open; these all came out in better condition than those better protected, which seems a pretty fair argument in favor of ventilation. I am going to try a new hive this season, called Gould's Common-sense hive. It is made with two stories both same size, taking the same frame, so that each will serve for either upper or lower story. It is particularly recommended for artificial swarming. An old bee-raiser who uses this hive informs me that just before day, the queen goes up into the second story, a large portion of the colony following her, he then lifts off this upper section and places it about a rod off, and he has his bees swarmed. A corresponding section can be placed on top of each hive. Now what do you think of this method?

G. R. Christian.

[The theory of the "old bee-raiser" is *only* a theory. It cannot be depended upon. A frame such as you described would not be acceptable to us.—Ed.]

Byron, N. Y., April 11, 1879.

I find after a month's time that my report in the April number needs considerable modification. My bees have not had a good flight from March 10th, until April 8th and 9th; during these days I made an examination of all the colonies and found 25 dead and from 3 to 5 more weak; so that our loss will approximate to 30 colonies. If it had been warm enough to have given them good flights once a week, I should not have this loss to report, but the weather here has been cold with temperature as low as 15°. I attribute the loss to dysentery. Correspondence from all sections of the country reports heavy losses. A bee-keeper called to see me yesterday who reports a loss of 60 colonies. Temperature this morning 29°, with about an inch of snow. Should this weather hold on another month you may look for another report. J. E. Moore.

Longmont, Col., April 13, 1879.

1. What is the best method for obtaining straight worker comb in the brood chamber?

2. In working for extracted honey, shall I extract from the brood chamber, and to what extent? F. J. Whitney.

[1. See answer to W. C. Leonard on page 224.

2. Whenever the queen has no room to lay in, use the extractor, especially during the honey harvests. An extractor is a necessity in every apiary.—Ed.]

Owatonna, Minn., April 5, 1879.

My bees have wintered well in my cellar, losing but a small nuclei made late last fall. The weather has been so cold of late that I am afraid they have suffered considerable. The cellar is, in this climate, I think, the only safe place for bees. I have 66 colonies I believe now. Sold last year about 20 colonies from $8.00 to $10.00 each, and got 1000 lbs. of extracted honey. Steele county, raised the most honey of any county in this state in 1878 (see statistics of Minnesota for 1878). White clover blossoms here through the whole season or summer, if we have a shower once in a while, which is quite an advantage, but basswood is our main honey producing plant; that failed entirely last year. H. H. Rosebrook.

Dunkirk, N. Y., April 11, 1879.

The spring is very backward; as far as the eye can reach westward from Dunkirk, Lake Erie is now covered with ice. A very cold west wind is blowing and at night the ground freezes hard. Bees in reality had only but 2 days this season on which they could fly out lively. Last fall I put up for winter 12 colonies, in good condition, by driving stakes in the ground and putting dry leaves, out of the woods, all around them, except the front. I lost 1 which was a late July swarm, and fearing it would not gather enough for winter, I fed them, early in August, some sour honey which I had. This I think caused it, and never shall I try it again. I think they did not starve for there was honey in the hive. The others are in fair condition, occupying about 4 combs (frames 10x12 inch). The elm, soft maple, and early willows, are on the point of blooming when we get warm weather. I wish we could have a bee-keeper's society in this county. Mr. Rainey introduced the Bee Journal to me, and I never shall do without it as long as I keep bees, and I shall introduce it wherever I find a chance.
Wm. Bolling.

Dixon, Ill., April 7, 1879.

There has been great loss in bees here, during the past winter and spring; fully 50 per cent. Last fall there were 3 apiaries in this town, consisting of 31, 40 and 45 colonies; of the lot, there are only now about 50, in very poor condition. I have not lost a colony. I have 22 now, all but 1 or 2 strong and healthy, with plenty of brood and honey; enough to last until June. I doubled up 2 weak colonies this afternoon, so I am really minus one. A man 14 miles east of me, has lost 60 colonies out of 80. I set out some moist brown sugar for the bees to eat, but they will do nothing with it; they carry in about 1 quart of flour every warm day. There is no natural pollen yet; last year they gathered it on the 7th of March. I use the Simplicity hive with Prof. Cook's bottom board, packed according to his directions and had no loss. I do not like the bottom boards and I would rather have the Langstroth blocks to close the entrances. I rather incline to the Langstroth hive also, only I must have tin rabbets to move the frames easily. B. F. Pratt.

Plymouth, Wis., April 4, 1879.

Bees are wintering poorly; never was a winter more disastrous. Each day adds another colony to the "dead." Dysentery has destroyed one,half of all the bees in this part of the State, and I fear the worst is not yet over. Neither cellar, house, or summer stand furnished security against that terrible scourge. Many have lost all, while a few, more fortunate, have lost from quarter to half. We would most earnestly, yet respectfully, petition old "Sol" to give us more sunshine. The late cold spell has destroyed the brood to a great extent in many of my colonies. Yesterday 3 strong colonies left their hives; a fourth would have issued had I not been present. In two cases out of the four, the queen was the first to leave the hive. J. N. McColm.

[Your petition to old Sol, has been heard and answered. The warmth and pleasant sunshine that now prevails we hope will put a stop to the ravages, and brighten up the future.—Ed.]

Fort Atkinson, Wis., April 16, 1879.

The bees in this vicinity have wintered poorly; fully one-third of those put into winter quarters last fall have died; cause, poor honey. I have lost ⅛ of mine and nearly all have from 10 to 15 lbs. of honey left. I think our cellars and wintering houses are not just right; they are too damp, especially if the honey is thin and poor. What bees are left are in fair condition.
S. M. Roberts.

Woodman, Wis., April 2, 1879.

I notice in April number, page 154, Mr. A. E. Norman complains of his bees beginning to build comb upon the bottom of frames in the second story. Perhaps he puts the second story on before the bees are strong enough to go up into them to work and having space above they begin to build from these combs up and after they get started that way are quite apt to continue. If he will keep his upper story off until the bees get strong and become crowded, then they will take to the top of upper story at once; this has been my experience, the same rule applies to sections or boxes. Bees that were not well cared for in this locality have died. I put 69 colonies in the cellar and took out 63, nearly all in good condition. To-day it is snowing and blowing, looking like mid winter. My best wishes for the American Bee Journal and its editor.
H. F. Walton.

South West, Ind., April 16, 1879.

On Easter Sunday my bees commenced a "little spree." In the morning I had just 36 colonies; about 10 o'clock, they commenced swarming and doubling up, and leaving for parts unknown, until I had just 9 colonies less than when they commenced. They were all in chaff hives with chaff cushions on sides and top. All had a plenty of honey, and all had brood in all stages. They were packed according to Mr. A. I. Root's plan. Some of the strongest colonies I had, left entirely. What was the cause of all this?

I. R. Good.

[It is much easier to ask than to answer this question. Desertion has never yet been accounted for in all cases, but it is usually attributable to some disturbing influence in the hive, or is the effect of a diseased condition of things.—Ed.]

Reno, Ind., April 21, 1879.

I regard the American Bee Journal as a model paper—the mechanical make-up is superb, and the articles rich, brilliant and attractive. It is indeed indispensable to bee-keepers. I shall take pleasure in being enrolled as one of the patrons of it, as long as it retains its present high-toned and elevating course. It will gain many friends through this section of country.

C. H. Brown.

Oneida, Ill., April 8, 1879.

I had 18 colonies of bees one year ago. I sold one for $7.00 and increased to 32. I sold 500 lbs. of comb honey, at 10 to 12½ cents per pound at home. The honey in sections sold readily. I have about 100 sections partly filled, to put on as soon as bees commence to gather honey. I winter my bees in a dark, dry cellar; have not lost a colony of bees for 2 or 3 years. Fully 25 per cent. of the bees wintered out side, have died. I put narrow ¾ inch comb startes in sections and 2 or 3 inch in brood frames. Do not like as much foundation as some use, besides it is not economy, the cheapest and purest comb is that which the bees produce.

Alvah Reynolds.

Nashville, Tenn., March 27, 1879.

I live near Nashville, and have 47 colonies of bees. I have been in the bee business for seven years and have learned a great deal about them. But there are some things that have come under my observation that I do not understand. One of them is this: A neighbor living one-quarter of a mile north-east of me, started in the bee business last year and increased to about 16 colonies. Last fall his bees began to run away. In September a swarm of about 3 pints came to my bee-yard and alighted on one of my hives near the ventilator. My bees killed them all. About two weeks after another swarm came to my yard, alighting on a cedar-tree near the place where the first did. They were taken back home. Some time after, another swarm started toward my yard, but stopped half way and was secured and taken home. Not long after this another started, the owner observing their leaving, closed the hive when about half of the bees were out. The half that got out came to my yard and lit on one of my hives, and were killed by my bees. During the warm spell in January, two other swarms came to my yard one in the morning and one in the evening, alighting close together on the fence. They were also taken back. About the third week in March another swarm came to my yard, and clustered on my watering trough. We caught the queen and clipped her wing and took the swarm back home. The next day they came back to the very same spot without the queen, of course. My bees that were getting water at the trough killed some of them and I don't know what became of the rest. There was not more than a teacupfull. At no time did any of these swarms exceed 3 pints; and I don't think that it was the same swarm more than twice. I think that I know why they left his hives; but I want to know why they invariably came directly to my yard. Success to the Journal.

Henry W. Roop.

[In all probability your neighbor's bees were demoralized by disease, and naturally deserted their hives, going in the direction of the hum at your yard; or it might be that your bees were robbing them, or indeed, both.—Ed.]

Camden Point, Mo., April 6, 1879.

My 47 colonies passed this extremely severe winter in splendid condition. I only lost one, which I did not expect would survive the long cold winter. I put 40 in the cellar November 22d, and took them out February 22d. They showed signs of disease and were uneasy, and supposing the real cold weather was over, I thought it best to put them out. At once the murcury dropped below zero, and for 14 days it remained in that vicinity—but there was no damage perceptable, the hives were actually full of youngsters—and they remained warm and comfortable. If I owned a small farm in Platte county, I would give my time and attention to bees for I believe 100 colonies would give a larger profit than the best farmer in the county realized in the last five years. Our advantages for honey producing are unexcelled and getting better every year. The white clover grows spontaneously on every foot of uncultivated ground, while almost every variety of honey flower is here.

Tom M. Moore.

Coal Creek, Iowa, April 6, 1879.

I winter generally about 100 colonies, in a cellar, ventilated by an opening in the bottom of each flue. I use the Engle and Langstroth hives, but prefer the latter. I leave the entire entrance open, take off honey board and put on a quilt, not too thick. I prefer pieces of rag carpet to anything else. Have never lost a colony, with plenty of honey and ventilation; if they lack the latter, moisture accumulates and dysentery invariably follows. Last winter I put away 80 colonies, and this spring all had queens and brood but one; all in good condition but five; these, through oversight, lacked ventilation, and I would rather have one strong colony than the whole five. I use section boxes. I do not like the grooved top, to hold foundation starters. It does not fasten securely enough. I use ¼ inch strips of foundation and fasten it by pressing it with a knife; if the weather is warm it is no trouble; if not, I warm the knife a little. Those who trusted to out-door wintering, in this section, lost from one-half to all they had. My sister who has been a successful bee-keeper, has lost the use of her eyes by using bee-veils, and very regrettingly quits the field. Let all beware, of straining their eyes and over-heating in the hot sunshine! May the Journal live long and its editors be prosperous. Mary Vale.

Ovid Centre, N. Y., April 17, 1879.

I wintered 60 colonies on their summer stands; have lost all but 6 or 7, one being very weak. But few bees are left in this vicinity. It is snowing to-day, but summer will come soon, no doubt. B. D. Scott.

St. Charles, Mo., April 7, 1879.

I have 140 colonies, and lost only 2 during the winter. They went into winter quarters very strong in bees and heavy with honey—but they are only in moderate condition now. The past season has been hard on bees in this section. A. T. Williams.

Columbia, Tenn., April 21, 1879.

The past has been the most disastrous winter I have ever experienced. My losses were over 100 colonies. The complaints are general. I have called a meeting of the Maury Co. Bee Society for first Saturday in May, when the matter will be fully discussed. Wm. J. Andrews.

Pilot Point, Tex., March 26, 1879.

I have 15 colonies of bees, and they are all doing well. I shall commence to make artificial swarms in a few weeks. Clover is in full blossom. Texas is a good climate for bees; they can work 10 months in a year. Bee-keeping is yet in its infancy here. Honey sells for 22½ cents per pound. E. Cook.

Chattanooga, Tenn., April 1, 1879.

Mr. Norman can prevent his bees from building comb in the frames from the bottom upward (see April number, page 154), by putting narrow strips of comb foundation, say one inch wide, from the top to the bottom of his frames, about equal distance from each end. This makes a ladder for them to climb to the top on, and they seem much pleased with it. This also answers for a starter as well as a piece of comb. H. R. Weeks.

West Groton, N. Y., March 20, 1879.

My bees wintered nicely that were packed in chaff; of those that were put into the bee-house I lost 7 out of 60 colonies. One-fourth of all the bees in this section have winter-killed; dysentery aided the work. The way I get a fine grain is by putting honey into 15 lb. pails, and stirring the honey once a week with a stick clear to the bottom of the pail. Those, who have eaten maple sugar, know that the more it is stirred, the finer is the grain. LaMar Coggshall.

Lodi, N. Y., April 18, 1879.

About 80 per cent. of the bees in this vicinity have died—many have lost all, others nearly all. I have lost 30 per cent.—have 46 colonies left. Geo. V. Lamoreaux.

Kane, Ill., April 2, 1879.

I wintered 7 colonies in Armstrong's Centennial hive on their summer stands; they are all in good condition. When I put colonies in a hive, I put the brood combs on the west side, (my hives face the south), and as they build new combs they work towards the east, and in the last frame they build drone comb, this makes drones late and few. I have always found the drone comb on the east side of the hive, and the bees will work more industriously if I force them to begin on the west side of the hive, instead of letting them begin on the east side as they will invariably do, if I let them have their own way. Radford M. Osborn.

Weston, Mich., March 31, 1879.

Bees have not wintered very well in this section: probably 50 per cent. or more have died. Most of them had plenty of honey. Some might lay it to the severe cold winter, but those that had their bees housed or protected have lost as large or larger per cent. as those that were on their summer stands. I wintered mine on their summer stands; without any protection; have lost 25 or 30 per cent of my colonies; find those that had ventilation in the top of the hive in the best condition. Think they are effected some as they were 4 or 5 years' ago, when so many died. W. G. Porter.

Hulmeville, Pa., April 21, 1879.

I have been keeping bees a number of years; am an old correspondent and subscriber to the Bee Journal, and was one of those who urged Mr. Wagner to get it up. I never knew the A. B. J. to be as good as it is now. It has been a very severe winter here on bees; some of my neighbors lost nearly all. I got through very well; lost 4 or 5 out of my 50 colonies; took off honey boards, put quilts on the frames and stuffed the tops of the hives with soft hay or dry lawn grass. Left a few with honey boards on and all the loss was from these. They had no upward ventilation except throuh the cracks in the hives. C. W. Taylor.

Cedar Vale, Kan., April 2, 1879.

It has been a very cold winter here. The elm and red bud, and nearly all of the early pollen and honey-producing trees, and bushes, have their limbs frozen so much that they will produce no flowers this season, and the prospect of an early increase by swarms is not very flattering. Last fall I had 22 colonies (all Italians) which stood out on the ground without any outside protection, where the cold blasts of wind could strike them in any shape, with top box filled with straw, and holes cut through the center of combs for bees to pass through; combs well filled with sealed honey. The theromometer went down to 12° below zero, but they wintered, without loss. We now have young bees hatched and flying, but high winds prevent them from getting very far from the hive. D. Bartgis & Sons.

Business Matters.

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PAYABLE STRICTLY IN ADVANCE.

Single subscription, one year	$1 50
Two subscriptions, sent at the same time	2 50
Three " " " "	3 50
Four " " " "	4 50
Five or more, " " " ..each,	1 00

☞ If not paid strictly in advance, TWO DOLLARS per annum will charged in all cases.

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☞ A line will contain about eight words; fourteen lines will occupy an inch of space. Advertisements must be received by the 20th, to insure insertion.

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THOMAS G. NEWMAN & SON,
972 & 974 West Madison St. CHICAGO, ILL.

To Correspondents.

When changing a post-office address, mention the *old* address as well as the new one.

We send the JOURNAL until an order for discontinuance is received and all arrearages are paid.

We do not send goods by C. O. D., unless sufficient money is sent with the order to pay express charges both ways, in case not taken from express office.

In consequence of the dearth of small currency in the country, we will receive either **1, 2 or 3 cent stamps**, for anything desired from this office.

Strangers wishing to visit our office and Museum of Implements for the Apiary, should take the Madison street-cars (going west). They pass our door.

Additions can be made to clubs at any time at the same rate. Specimen copies, Posters, and Illustrated Price List sent free upon application, for canvassing.

Remit by post-office money-order, registered letter or bank-draft, payable to Thomas G. Newman & Son, so that if the remittance be lost it can be recovered.

We will send a tested Italian Queen to any one sending us **FIVE** subscribers to the AMERICAN BEE JOURNAL with **$7.50.** The premium Queens will in every case be tested, but not sent till after July 1st.

Seeds or samples of merchandise can be mailed for one cent per ounce, Printed matter one cent for every two ounces. These must be tied up; if pasted, they are subject to letter postage. *Don't send small packages by express, that can just as well be sent by mail.*

For the convenience of bee-keepers, we have made arragements to supply, at the lowest market prices, Imported or tested Italian Queens, Full Colonies, Hives, Extractors and anything required about the Apiary. Our Illustrated Catalogue and Price List will be sent free, on application.

We have gotten up a "Constitution and By-Laws," suitable for local Associations, which we can supply, with the name and location of any society printed, at $2 per hundred copies, postpaid. If less than 100 are ordered, they will have a blank left for writing in the name of the Association, etc. Sample copy will be sent for a three-cent postage stamp.

Our answer to all who ask credit is this: We sell on **small** margins, and cannot afford to take the risks of doing a credit business. If we did such a business, we should be obliged to add at least 10 to 20 per cent. more to our prices, to make up for those who would never pay, and to pay the expenses of keeping book-accounts with our customers—this we know our **Cash** customers would not think to their advantage.—This rule we must make general in order not to do injustice to any one. The cash system gives all the advantage to cash customers, while the credit system works to their injury. In justice to all we must therefore require **Cash with the order.**

Bingham Smoker Corner.

Wyoming, Iowa, March 25, 1879.—Smokers and knife received; knife is a beauty. If that knife won't uncap, they cannot make one that will.
Yours truly, J. E. HUNTER.

Agricultural College, Lansing, Mich., March 12, 1879.—I believe in smokers, especially Bingham's smoker, and I deem myself fairly qualified to judge in the matter, because I have tried, during the past few years, most styles before the bee-keeping public.
Truly yours, FRANK BENTON.

Shelbyville, Ky., April 9, 1879.—Enclosed find P. O. order, for which send me half a dozen standard smokers. I have the one I first bought of you, three years ago. and it is not yet out of order.
HENRY KRUEGER.

We could not do without Bingham's smoker. We use the standard size and have five of them in use in our apiaries. Bingham & Hetherington's honey knife is preferred by our hands, because it separates the cappings entirely from the combs.—CHAS. DADANT & SON, Hamilton, Ill., in illustrated circular for 1879.

FOR CANADA.

As I have bought out J. A. WATERHOUSE'S Stock of

APIARY SUPPLIES,

I will offer it to Canada Bee-Keepers at half price. Send for printed Catalogue—FREE.
5-7 W. G. WALTON, Hamilton, Ont.

FOUNDATION MACHINES

From $15.00 to $25.00 Dollars.

The latest, the cheapest and the best. A success for bedding wire in foundation. Circular and sample free. D. S. GIVEN, Hoopeston, Ill.

BEFORE

purchasing colonies with imported queens, or home-bred queens, Italian queens, COMB FOUNDATION, and implements in bee culture, write for circular with prices, and sample of comb foundation free.

Fifty good Colonies of Common Bees, in box hives, for sale at $3.50 each. Address,

CHAS. DADANT & SON,
Hamilton, Ill.

LANGSTROTH HIVES,

Prize Section Boxes and Frames at Low Prices. Any other pattern of Hive made to order. Send for Price List, to **DUNN & STEVENS.**
Ref. } First National Bank, MONMOUTH, ILL.
} T. G. McGaw, " " 3-6

Hives and Section Boxes.

Material for Langstroth Hives, with 9 Frames and 6 Cases for sections, in the flat	$1 00
Sample Hive, in the flat	1 25
Dovetail Section Boxes, any size under 6x6 in., in lots of 500	3 50
" " 1,000	6 50

Prize Boxes ready to nail at same prices. Send for Circular and Price-List. W. D. PARKER, Manufacturer, Defiance, Ohio. 2-5

Golden Italians.

We have them in their purity. Circulars and prices free. J. M. BROOKS & BRO.,
4-9 Box 64, Columbus, Ind.

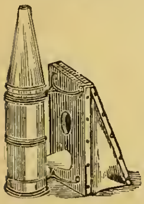
Local Convention Directory.

1879. *Time and Place of Meeting.*

May 2, 3.—Southern Kentucky, at Gainsville, Ky.
2.—Missouri Valley, at Kansas City, Mo.
3.—Clark Co., Ohio, at Springfield, O.
5—N. W. Ill. and S. W. Wis., at Pecatonica, Ill.
6.—Albany County, N. Y., at Clarksville, N. Y.
5-6.—Central Kentucky, at Lexington, Ky.
6.—Warren Co., N. Y., at Watts' Flats, N. Y.
6-7.—West. Ill. & Eastern Iowa, at Hamilton, Ill.
8-9.—Muscatine District, at Muscatine, Iowa.
10—Central Michigan, at Lansing, Mich.
12—Lancaster County, Pa., at Lancaster.
15—Addison County, Vt., at Middlebury, Vt.
21.—North Missouri, at McCredy, Callaway Co.
28.—North-Eastern Wisconsin, at Hartford, Wis.
Oct. 21.—National Convention, at Chicago, Ill.
1880.
Feb. 11—Northeastern, at Utica, N. Y.

☞ In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

SOMETHING NEW.



NEW BOOK, NEW SMOKER, NEW WAX EXTRACTOR, NEW IRONS for STEADYING HANGING FRAMES.

For descriptive circular, showing specimens of the illustrations in our new **Book on Bees**,

Address,
L. C. ROOT,
Mohawk,
Herk. Co., N. Y.

An Extractor, as good as the best, and not costing more than a Bee-Hive. Send on $2.50 and receive the fixings complete for inserting into a common barrel, and, by fitting a lid on the barrel, you will have an instrument as handy and efficient as any that are made. It was used with entire satisfaction last season. Any size at the same price. Always send outside measurement of frames when ordering. Complete printed instructions are sent along with the fixings; also, an appendage for extracting pieces of comb, for 50c., if ordered. WM. THOMSON,
5-tf 1051 Grand River Ave., Detroit, Mich.

LOOK! LOOK!

at our Circular and Price List before ordering your

APIARIAN SUPPLIES.

We sell

HIVES, FRAMES, SECTION BOXES, GLASS, TIN SEPARATORS, HONEY AND WAX EXTRACTORS, SMOKERS AND KNIVES.

Also, the very best, pure beeswax

COMB FOUNDATION,

Either lozenge-shaped or flat-bottomed, in any quantity and at the lowest prices. Our implements are of the latest approved patterns. Satisfaction guaranteed. Send now for price list and sample of the thin flat-bottomed Foundation for Surplus Boxes, to

W. D. WRIGHT,
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PEACEABLE ITALIAN BEES.

Before removing to New York I was enabled by several discoveries to rear very choice light-colored Italian Queens, which sold at $5 to $7 each. As a recreation in the open air I will rear a few such queens this season, at $4 each in May or June, and $3 each in July or August, but I shall have no time to spare from study to answer any questions by letter, nor to correspond with any but actual customers. Address H. A. King, 61 Hudson St., New York.

For Sale!

An Apiary in a choice location, Full Colonies, Queens, Bingham Smokers, Bingham & Hetherington Knives, Extractors, Fancy Spruce Sections and Boxes, Glass, Comb Foundation, Bee-Veils, Bee Feeders, &c.

The Turner Raspberry

has no equal either as a Garden or Market Berry, or as a

HONEY PRODUCER.

Send address for Circular and Price List, to

JAMES HEDDON,
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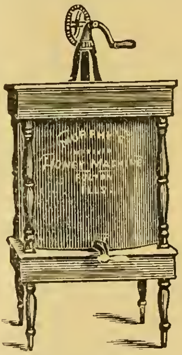

Send for Murphy's Price List of Honey Extractors for 1879. The

Only American Extractor

that was awarded a

Medal & Diploma

by the regularly appointed judges at the Centennial Exposition of 1876. Also,

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Honey Boxes

of all kinds, at low rates.

Address,
R. R. MURPHY,
Garden Plain,
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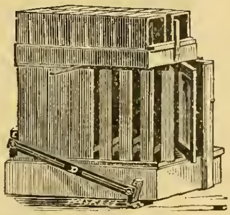
ARMSTRONG'S
IMPROVED
CENTENNIAL BEE HIVE.



This hive gives entire satisfaction wherever it has been used. It is very simple in construction, and for ease and rapidity in manipulating, out-door wintering, &c., it is the I. X. L.

Descriptive circulars sent free to all.

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Plymouth Rock Eggs.—Setting of 13 to exchange for each Warranted Italian Queen.
G. C. SODEN, Canandaigua, N. Y.

Herbert A. Burch & Co.'s Full Page.

Up with the Times.

Fully realizing the present low price of all commodities, and believing the low price of honey calls for the LOWEST RATES on APIARIAN SUPPLIES, we have reduced margins and cost of manufacturing, and invite the attention of bee-keepers to the following prices. The QUALITY of our goods is UNEXCELLED.

Italian Queens.

Untested Queens, each	$1.00
" " per half dozen	5.75
" " " dozen	11.50
Warranted " each	1.50
" " per half dozen	8.00
" " " dozen	15.00
Tested " each	2.50
" " per half dozen	13.00
" " " dozen	25.00
Selected tested Queens, each	3.50
Imported " "	4.50

Nucleus Colonies.

1 Nucleus Colony	$3.00
6 " "	16.50
12 " "	30.00

Comb Foundation.

10 pounds, per lb	50 cts
25 " "	48 cts
50 " "	46 cts
100 " "	45 cts
500 " "	43 cts

Tin Separators.

For Langstroth frame per 100	$2.50
" " " " 1000	24.00
" American " " 100	2.00
" " " " 1000	18.00
" Novice Section " 100	2.00
" " " " " 1000	18.50

Broad Frames.

Material complete, per 100	$2.50
" " " 1000	22.00

Prize Boxes.

Material for Prize Boxes, per 1000	$5.75
" " 2000 to 4000 "	5.50
" " 4000 to 8000 "	5.25
" " over 8000 "	5.00

Dovetailed Sections.

Material 4¼x4¼ in. per 1000	$7.00
" " 2000 to 4000 "	6.75
" " 4000 to 8000 "	6.50

Our New Section.

Material complete per 1000	$4.50
" " for 2000 to 4000 "	4.40
" " " 4000 to 8000 "	4.30
" " " over 8000 "	4.25

Bee Hives.

Langstroth hives 10 to 15, each	.80
" " 15 " 25 "	.75
" " 25 " 50 "	.70
" " 50 " 100 "	.65

We furnish above with our new surplus arrangement, the best in use at these rates:

Material for Langstroth hives and Supers, complete, 10 to 15, each	.85
" " 15 " 25 "	.80
" " 25 " 50 "	.75
" " 50 " 100 "	.70

Burch's Honey Extractor	$8.00
Wax Extractor	3.25
Shipping Crates for prize boxes, per 100	9.00
Burch's Queen Cage, per dozen	1.00
" " " sample by mail	.12
Sample of comb foundation, prize box or section, each	.6

Above is a fair sample of our prices. We sell many other articles, however, which are useful to bee-keepers. Send for our descriptive 40-page Catalogue, which contains VALUABLE INFORMATION to all bee-keepers. After reading it, we feel sure that you will find to your advantage to order your SUPPLIES for the Apiary of

HERBERT A. BURCH & CO.,

South Haven, Mich.

Coffinberry's Excelsior

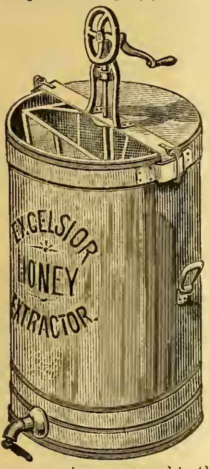
HONEY EXTRACTOR,

From $8.00 to $14.00.

Sizes and Prices:

No. 1.—For 2 Langstroth frames, 10x18 inches...	$8 00
" 2.—For 2 American Frames, 13x13 inches....	8 00
" 3.—For 2 frames, 13x20 inches or less	12 00
" 4.—For 3 " " " "	12 00
" 5.—For 4 " " " "	14 00

THE EXCELSIOR HONEY EXTRACTOR combines all the advantages of other Extractors, and is the *cheapest* thoroughly practical machine ever yet made.



It is made entirely of metal, and is the best Honey Extractor in the market. It is light, but has attachments for fastening down to a platform. It can be instantly taken to pieces for cleaning, having no screws to take out, nor heavy pieces to lift.

Some of its advantages are as follows: The lower end of the comb basket shaft does *not* revolve in the honey below, even when 60 or 70 lbs. may be there!

The Comb Basket having vertical sides, insures the extracting power alike for top and bottom of frames.

An over-motion and strong gearing is essential to both *ease* of operation and *effective* work.

It has a small comb-holder for extracting pieces of comb or partly-filled sections.

Nos. 3, 4 and 5, have neatly-fitting covers, movable sliding sides to the baskets, and movable strainers covering the canal to the faucet, whereby the last drop of honey can be drawn off without a particle of sediment.

A CHEAPER MACHINE

being called for, I have made one for the Langstroth frame, and one to take the American frame, to sell at **$8.00.** These have no covers or strainer, and are much smaller than the $12.00 and $14.00 sizes, but for the frames named are equal to the others for effective work, and are the **best** cheap extractor made.

C. C. COFFINBERRY, Chicago.

Or AMERICAN BEE JOURNAL Office.

Queens. 1879. Queens.

We shall be able to furnish Italian Queens after May 15th, at following prices:

Choice Tested Italian Queens	$2 50
Warranted " "	1 50
Queens bred from Imported Mothers, but not warranted..	1 00

FOUL BROOD

will be cured with our "Foul Brood Remedy." Cure warranted. Write for particulars.

4tf MILLER & HOLLOM, Kewaskum, Wis.

ITALIAN BEES.

50 Colonies of Italian Bees for sale cheap.

3-5 WM. J. ANDREWS, Columbia, Tenn.

COMB FOUNDATION 45 cents per lb., in lots of 100 lbs. or more; less than 100 lbs., 50c. per lb. Also, Tested ITALIAN QUEENS for $2.00. Satisfaction guaranteed.

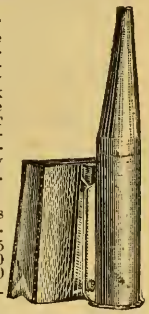
A. F. STAUFFER, Sterling, Ill.

BINGHAM'S

DIRECT-DRAFT

BEE SMOKER.

Patented January 9, 1878; re-issued July 9, 1878.



Burns anything, and never goes out.

In these days of progress, no one thing has added more to the success of bee-culture than the Bingham Smoker. Send on your money and our word for it, you will think it the best investment you have made. This is the ONLY PATENT bee smoker, and parties are cautioned against buying other DIRECT DRAFT smokers. Sent by mail, post-paid, on receipt of price.

Many thousand are in use.

Hundreds of unsolicited letters testify to their superior excellence.

Extra Large size..2½ inch,		$1 75
The Standard " ..2	"	1 50
Small " ..1¾	"	1 00

Manufactured only by the inventor.

☞Send for Circular for Patent Honey Knife and Smoker. **T. F. BINGHAM**, Otsego, Mich.

ITALIAN QUEENS,

1879.

Price, April, May and June..................	each,	$3 00
" July, August and September........	"	2 00

STANDARD OF PURITY.

All Queens guaranteed to be of good size, vigorous and producing workers large and uniformly marked with three distinct yellow bands, of fine golden color.

We shall have a shipment of fine *Tested* Queens, from Italy, in April, selected for our Apiary.

No Circulars. [2-tf] A. F. MOON, Rome, Ga.

Italian Queens or Colonies.

Eighteen years experience in propagating Queen Bees from imported mothers from the best districts in Italy. Persons purchasing Queens or Colonies from me will get what they bargain for. Send for circular.

WM. W. CARY,

3-tf Colerain, Franklin Co., Mass.

DUNHAM

FOUNDATION MACHINE!

And also everything of any practical value in the Apiary: Hives, Sections, &c. Samples of Foundation made upon the above machine FREE. Circulars sent on application.

FRANCES DUNHAM,

3-8 Depere, Brown Co., Wis.

EGGS! EGGS!

FOR HATCHING.

Packed in new baskets for any distance, from First Premium Brown Leghorn and Black B. R. G. Bantams, mated for me by I. K. Felch, and purchased of him, who says they are as good as money *can* buy of him. A fair hatch guaranteed or order duplicated, at $2.50 per 13, or $4.00 for 26.

4-5 C. W. CANFIELD, Athens, Bradford Co., Pa.

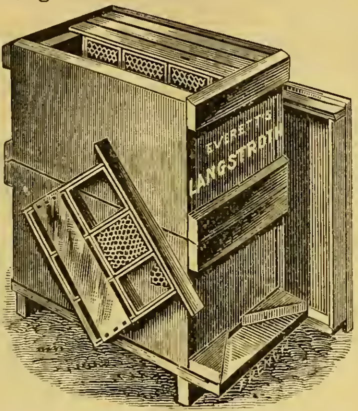
ITALIAN QUEENS,

Bred from IMPORTED and HOME-BRED mothers. *Young, beautiful*, and *good* as the *best*. Safe arrival guarunteed. Tested, each $2.00; warranted pure, each $1.25. Address,

4-6 T. N. HOLLETT, Pennsville, Ohio.

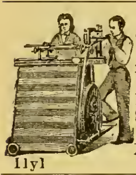
16 page Illustrated Circular Sent Free.

Honey Extractors and Hives a Specialty.



Apiarian Supplies, Italian Bees, &c., &c.

EVERETT BROS., 107 Monroe St., Toledo, Ohio.



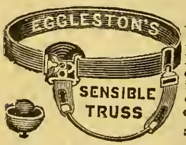
JOYFUL News for Boys and Girls! Young and Old!! A NEW INVENTION just patented for them, for Home use! Fret and Scroll Sawing, Turning, Boring, Drilling, Grinding, Polishing, Screw Cutting. Price $5 to $50. Send Stamp and address EPHRAIM BROWN, Lowell, Mass.

11y1

FOR QUEENS, BEES, HIVES,

and all kinds of Supplies at bottom prices, ask for Price List.

B. B. BARNUM,
Louisville, Ky.



THIS NEW ELASTIC TRUSS

Has a Pad differing from all others, is cup-shape, with Self-Adjusting Ball in center, adapts itself to all positions of the body, while the **BALL** in the cup **PRESSES BACK** the **INTESTINES JUST AS A PERSON WOULD WITH THE FINGER.** With light pressure the Hernia is held securely day and night, and a radical cure certain. It is easy, durable and cheap. Sent by mail. Circulars free.

Eggleston Truss Co., Chicago, Ill.,

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For Sale Cheap.

200 Colonies of Italian Bees.

Having over 450 Colonies of Italian Bees, I will sell 200 in lots of 25, 50, 100 or 200 at $5.00 each, delivered on board of any Mississippi river steamboat. All the Queens are daughters of Imported Mothers, of different parts of Italy. ☞ Dollar and Tested Queens now ready to ship. Comb Foundation, Apiarian Supplies, &c. Address,

4-tf PAUL L. VIALLON, Bayou Goula, La.

ITALIAN QUEENS AND BEES.

Send for price-list of Queens, full colonies, four-frame nuclei, comb foundation, and apiarian supplies. Satisfaction and safe arrival guaranteed. All Queens reared from Imported Mothers.

4-tf H. H. BROWN, Light Street, Col. Co., Pa.

Look Here.

HART'S IMPROVED

LANGSTROTH HIGH-PRESSURE BEE HIVE!

After about fifteen years experimenting, simplifying and utilizing, I have succeeded in arranging a hive that I am confident possesses more advantages for less money than any other yet offered, and as it is patented—by letters dated 1868 and 1872—will state some of the advantages: It is double and triple walled, *one thickness tarred roofing paper*, side opening, fast or loose bottom, adjustable portico and honey-board, can be used single or two-story, long, low brood-chamber, or compounded to suit any sized swarm, either for comb or extracted honey, breeding colonies or for a non-swarmer. Now, after testing my hive thoroughly, I wish to introduce it to the bee keepers of the United States, either by selling territory very cheap, or by responsible agents, giving references, to manufacture and sell on a royalty. By sending 25 cents in stamps you will get a pamphlet of 50 pages, describing it more particularly, and giving much useful matter pertaining to my plan of working, &c. **A. H. HART.**

Appleton, Wis., March 12, 1879.

1879. Queens!--Queens! 1879.

ITALIAN QUEENS!
CYPRIAN QUEENS!
HUNGARIAN QUEENS!

During the past eighteen years we have been

HEAD-QUARTERS!

for Italian Queen Bees, and now we have added the Cyprian and Hungarian bees to our stock. To be up with the times, we shall continue to sell

DOLLAR QUEENS!

With our long experience in the Queen-rearing business, we can warrant all our Queens to be purely fertilized, and we also guarantee safe arrival by *mail* or *express*. Parties intending to purchase Queens the coming season should read our

Special "Queen Bee" Circular!

giving instructions for introducing Queens safely, and containing other information valuable to bee-keepers. All bee-keepers should read our eighteenth annual circular and price-list of apiarian supplies. Both circulars sent free.

PRICES OF QUEENS.

Tested Queens, each	$2 00
" " per dozen	20 00
Warranted Queens, each	1 00
" " per dozen	11 00

IMPORTED QUEENS.

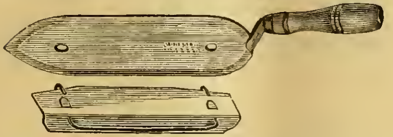
Cyprian, each	$10 00
Hungarian, each	5 00
Italian, each	4 50

H. ALLEY,
Wenham, Essex Co., Mass.

LAND IN FLORIDA.

640 ACRES OF TIMBER LAND in Northern Florida, about 50 miles south of the Georgia Line, 25 miles west of Tallahassee, and near the Apalachicola river. Title clear and unincumbered. Will trade the above described land, either a part or the whole, for a farm or an apiary in some North-western State, at a fair valuation for both. For particulars, giving a description of what you wish to offer in exchange, addresss, FLORIDA LAND, care AMERICAN BEE JOURNAL, Chicago.

Bingham & Hetherington
HONEY KNIVES!



Are used plain, if the combs are held upright, and with the cap-catcher, if laid on a table. They are not *like any other* honey knife ever made. They are superior in finish and temper, and do much more and better work. *No one can afford to be without one.* Plain, $1.00 ; with movable cap-catcher, $1.25. Send for Circular for dozen rates for Knives and Bingham Smokers to BINGHAM & HETHERINGTON,
Abronia, Allegan Co., Mich.

Bee-Keepers' Supplies!

I shall continue to sell, at reasonable rates, a large variety of Bee-Keepers' Supplies, such as

MUTH'S ALL-METAL HONEY EXTRACTOR,
UNCAPPING KNIVES,
WAX EXTRACTORS,
LANGSTROTH BEE HIVES,
SECTIONAL BOXES,
SQUARE GLASS HONEY JARS,

to hold one and two pounds each, with Corks, Tinfoil, Caps and Labels, ½ lb. Tumblers, Glass Fruit Jars, &c.

COMB FOUNDATION,
BEESWAX, GLOVES, VEILS, STRAW MATS, ALSIKE CLOVER SEED,

as well as a great assortment of Garden and Field Seeds, &c. For further particulars address,

CHAS. F. MUTH,
2-tf 976 and 978 Central Ave., Cincinnati, Ohio.

American Bee Journal and **Bee-Keeper's** Magazine sent at club rates to single subscribers. Barnes' Foot-Power Saws, for hive making, Extractors, Smokers, and Bee Literature of the day supplied. Send for Circular.
5-6 E. H. WYNKOOP, Catskill, N. Y.

Oesterreische Bienen-Zeitung.

Allgemeines Organ fur Bienenzuecht, Organ der Gesellschaft der Bienenfreunde in Bœhmen. A monthly paper devoted exclusively to bee-keeping. Price, 1f. 20c.—Austrian value. 60c. a year. The cheapest and largest Austrian bee journal ; contributors are the best practical writers on bee-keeping in all parts of the world. The only German journal that furnishes reports and items from the American and English bee papers. Addresses to be sent to RUDOLF MAYERHŒFFER, Publisher of the Oestern Bienen-Zeitung, Praga Neustadt 747.

J. OATMAN & SONS'
CORNER.

We wish to inform our friends that we are producing

COMB FOUNDATION,

in large quantities and of superior quality. Our facilities are such that we can supply in any quantity desired on short notice, and all favoring us with their orders shall have prompt and satisfactory attention. In at least one point our foundation excels that produced by any manufacturer in the country. Will supply in any quantity wanted, or size desired, at the following prices :

1 to 20 lbs., per lb.	55c.
25 to 45 " "	53c.
50 to 90 " "	52c.
100 to 400 " "	50c.
500 to 900 " "	48c.

1000 lbs. and upwards, special figures.

If ordered in lots of 5, 10, 15, 25, 50 or 100 lb. boxes, 8x16½ or 12x18, ten per cent. may be deducted from the above figures.

Wax to be made into Foundation.

Lots of 100 lbs. and upwards sent us, with 12½c. per pound, freight pre-paid, will be made up and cut to any size, and delivered on board cars here.

Italian Queens.

The superiority of the Queens reared in our apiaries is so well established, we shall not here detail their merits ; but to those wishing honey-producing stock, combined with prolificness, we will say they are not beaten. Our arrangements for breeding largely are complete, and we shall take pleasure in booking *your order now.* Those desiring Queens among the first sent out, will do well to order at once.

Dollar Queens, each	$1 00
" " per doz	11 50
Warranted Queens, as good as ordinary Tested, each	1 50
Ditto ditto ditto per doz	15 00

Langstroth and Modest
BEE HIVES,

for the million, at prices to suit the times.

Honey Boxes and Sections,

plain and dovetailed, are large specialties, and if you desire a nice job, at a fair price, we can accommodate you.

Extractors, Smokers, Bee Veils,

and everything needed in the apiary, supplied at the lowest living rates. Order your goods early, remembering that *large* yields of honey are only obtained by having *everything ready* for securing it.

J. OATMAN & SONS,
4-tf Dundee, Kane Co., Ill.

BEFORE

purchasing colonies with imported queens, or home-bred queens, Italian Queens, COMB FOUNDATION, and implements in bee-culture, write for circular with prices, and sample of comb foundation free.

Fifty good Colonies of Common Bees, in box hives, for sale at $3.50 each. Address,

CHAS. DADANT & SON,
Hamilton, Ill.

Material for Prize Boxes,

Ready to nail, sawed from white basswood or pine, one side planed smooth by machine, to fit glass 6x6 inches or less:

In lots of 1,000 to 3,000, per 1,000	$6 00
" more than 3,000, per 1,000	5 50

Material for Cases, according to size; material for California Section Boxes, sides put together, thickness of sides, top and bottom pieces ¼ inch, nailing box included, to take glass (on the ends of boxes), 6x6 inches or less, for 500 frames or more, at the rate of $10.00 per 1,000. SEYMOUR RUGGLES,
5-tf Saratoga Springs, N. Y.

Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send you a sample copy of our

Monthly Gleanings in Bee-Culture,

with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Artificial Comb, Section Honey Boxes,** all books and journals, and everything pertaining to Bee Culture. *Nothing patented.* Simply send your address on a postal card, *written plainly*, to A. I. ROOT, Medina, O.

Cheap Hives.

See our "ad." in JOURNAL for December, January, February and March.

CHEAP SECTIONS.

Following prices are for any size up to 6x6:

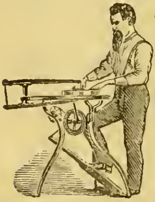
Plain, sawed smooth, per 1,000	$4 50
" sandpapered, "	5 50
Dovetailed, sawed smooth, per 1,000	5 50
" sandpapered, "	6 50
Lewis' Sections (all in one piece), sandpapered, per 1,000	7 50

Lewis' Honey Boxes and Dovetailed Honey Boxes, very cheap, all of excellent material and Workmanship.

☞ Send for Price-List.

LEWIS & PARKS,
successors to G. B. LEWIS,
12-m6 Watertown, Wis.

BARNES' PATENT
Foot-Power Machinery



CIRCULAR and SCROLL SAWS

Hand, Circular Rip Saws for general heavy and light ripping. Lathes, &c. These machines are especially adapted to **Hive Making.** It will pay every bee-keeper to send for our 48 page Illustrated Catalogue.

W. F. & JOHN BARNES,
Rockford, Winnebago Co., Ill.
junely

Bees!---1879.---Bees!

Full Colonies, Nuclei and Queens Cheap. Supplies furnished. Satisfaction guaranteed. Write for particulars. S. D. McLEAN & SON, Culleoka, Maury Co., Tenn. 2-7

1879. 1879.

REV. A. SALISBURY & HAYES,

CAMARGO, ILL.,

Breeders of Pure Italian Bees and Queens, from Imported and Home-Bred Mothers, and Manufacturers of Hives, Prize Boxes, Comb Foundation, and all general Apiarian Supplies.

BEES.

Reserved and Early Tested Queens	$3 00
Queens, July to September	2 50
Colonies of 10 frames	9 00
" 12 "	10 00
Nucleus, 1 frame	4 00
Comb Foundation, 10 lbs. or over, per lb.	50

Wax cleaned and worked for 25c. per lb., or on one-half shares.

☞ Send for Circular. 2-7

Italian Queen Bees
FOR 1879.

I shall breed Italian Queens for the coming season, from imported mothers of undoubted purity. Safe arrival and purity guaranteed in every shipment. Prices very low. Circulars sent free. Address,
D. P. MYERS,
aply1 West Salem, Wayne Co., Ohio.

BEFORE PURCHASING

Supplies for your Apiary, send a postal card with your name (and if you will do us the kindness, those of bee-keeping neighbors) for our illustrated circular of Apiarist's Supplies, of every description; sample Sectional Box, and Comb Foundation made on the

Dunham Foundation

machine, which is the latest improvement in that line. We wish to place these samples before

EVERY READER

of this JOURNAL, and hence offer them **FREE.** Just send your name at once. Special attention given to rearing Italian Queens and Bees.

☞ We have secured the general agency of the above machine.

The highest price paid for Beeswax.
1-tf J. C. & H. P. SAYLES, Hartford, Wis.

In the Market again with 100 Colonies of

ITALIAN BEES,

with young, fertilized Queens, less than 60 days old, at $5.00 per Colony. We shall continue to rear Queens through the season as usual.

Tested Queens, per dozen	$25 00
Untested Queens, "	10 00

Safe arrival guaranteed. Address,
D. STAPLES & SON, Columbia Apiary,
1-6 *Columbia, Tenn.*

ITALIAN NUCLEI.

Strong 4 frame Nucleus, in new hives, all complete, for	$5 00
Two frame nucleus	2 50

All Queens reared in full colonies, from a choice Imported Mother. HIRAM ROOP,
2-tf Carson City, Montcalm Co., Mich.

IF YOU WANT

Supplies for the Apiary, send for our price-list before making your purchases for 1879. If you want

Comb Foundation of Best Quality,

and for **less money** than heretofore, send for our price-list and learn how 'tis done. We sell **GLASS** for honey-boxes,

Tin Separators, Bee-Smokers, Honey Extractors, Wax Extractors, Honey Knives, Prize Boxes, Sections, Bee Hives, Comb Foundation,

and many other things, all at **astonishingly low prices.**

Italian Queens, Nucleus Colonies and Full Colonies ot Italian Bees,

of the CHOICEST STOCK in the country, will be furnished in any quantity, at the lowest living prices.

Our CIRCULAR contains much valuable information, and tells you the **best methods** of introducing queens, artificial swarming, how to secure the

MOST SURPLUS HONEY,

and how to obtain the HIGHEST PRICE for the same. Our arrangements are such that we shall be

HEADQUARTERS

for apiarian supplies during 1879. If you have any doubts on this point, just send us your name on a postal card, and our circular will be forthcoming, showing you how to SAVE MONEY in buying supplies.

Our Motto: The Best Goods at the Lowest Prices.

Address, **HERBERT A. BURCH & CO.,**
1-tf South Haven, Mich.

SPERRY & CHANDLER'S

NORTH STAR HIVE.

There are now over 1,000 of these Hives in use in different parts of the United States, and wherever tried they are pronounced the best Hives before the public for all general and special purposes. We are now prepared to promptly fill all orders for the North Star, or Improved Langstroth, with our patent Manipulating Side. Samples of surplus honey taken from the North Star, as also our hives in use, may be seen at the American Bee Journal office. Send for illustrated circular—correspondence solicited.

Address SPERRY & CHANDLER,
974 W. Madison Street,
Or AMERICAN BEE JOURNAL, Chicago, Ill. 8-tf

GEORGE GRIMM,

OF

JEFFERSON, WISCONSIN,

hereby respectfully gives notice to the public, that his Circular and Price-List of Italian Bees for the year 1878-9, is ready, and that he is selling at his usual *low* prices. 10-6

Foundation Machines.

12 inches wide	$40 00
9 inches wide	30 00
6 inches wide	25 00

Every machine warranted. On receipt of 10 cents, I will send a sample of the foundation made by the machine. Machines for drone or worker comb at the same price.

12-tf JOHN BOURGMEYER, Fond du Lac, Wis.

1865.— **THE** —1879.

HONEY HOUSE.

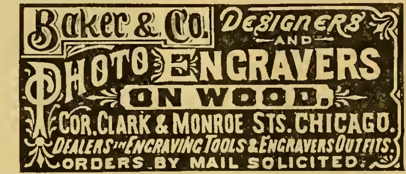
C. O. PERRINE, 54 & 56 Michigan Av., Chicago.

As a Manufacturer of

COMB FOUNDATION,

I can say my goods have given entire and universal satisfaction. The ruling low prices were made by me, and any one desiring any considerable quantity would do well to consult me before buying elsewhere.

☞ Market price for Beeswax.


Baker & Co. Designers and Photo Engravers on Wood.
Cor. Clark & Monroe Sts. Chicago.
Dealers in Engraving Tools & Engravers Outfits.
Orders by Mail Solicited.

ITALIAN BEES FOR 1879.

This is my 13th year with Italians. I will sell pure tested Queens for $3.00, till July 1st. Full Colonies in Langstroth hives, $10 to $12.00. Nuclei, with 3 full frames, $6.00. Several leading varieties of Poultry. No dollar or unwarranted queens.

2-tf R. M. ARGO, Lowell, Ky.

Pure Italian Queens and Colonies

For Sale for 1879.

—o—

The best is the cheapest at any price. Circular sent free. Address, D. A. PIKE, Box 19, Smithsburg, Washington Co., Md. 2-5

1879. 1879.

Italian Queens, Nuclei and Colonies,

Bred and reared in full strong Colonies. Queens and Drones from selected mothers.

Single Queen, Tested	$2 00
Single Queen (laying), Untested	1 00

On all orders for 10 or more Queens I will pay express charges, except to States west of Rocky Mountains.

1 Langstroth frame Nucleus	$2 00
2 " " "	2 50
3 " " "	3 00
8 " " Colony	6 00

Nuclei and Colonies in nice white pine hives. One Dollar more when containing Tested Queen. Send money by P. O .Order or Registered Letter.

Orders promptly filled and safe arrival guaranteed.

Address, W. P. HENDERSON,
3-6 Murfreesboro, Tenn.

AT REDUCED RATES!

1879—Early Italian Queens.—1879.

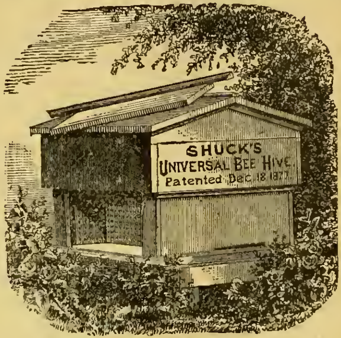
Imported and home-bred Queens, Nucleus Colonies, Full Colonies. For quality and purity, my stock of Italians cannot be excelled by any in America.

If you want the best Movable-Comb Bee-Hives, suited to the Southern climate, Honey Extractors, Bee-Veils, Smokers, Feeders, Gloves, or bee-fixtures of any kind, send for my new Circular. Address,

1-6 Dr. J. P. H. BROWN, Augusta, Ga.

SHUCK'S UNIVERSAL BEE HIVE.

Claims the Attention of every one engaged or interested in Bees.



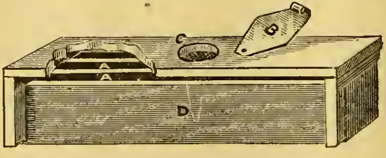
THE HIVE

Is devised by a practical bee-keeper for PROFITABLE use ; double walls, with either dead air space or chaff packing ; inside walls are porous, allowing all moisture to escape from the brood chamber, keeping it perfectly dry, sweet and wholesome, even with unsealed stores ; both sides are removable ; frames hung upon metal supports on the top of the end walls (not in rabbets) and are easily handled ; brood chamber large or small, as desired, and may be as complete with one frame as with a dozen ; space for 96 pounds surplus honey within six inches of the brood nest. No colony need be lost during the winter months in this hive. No melting combs in this hive during the hot weather. Positively

THE BEST HIVE BEFORE THE PUBLIC.

APIARY RIGHTS, $5.00. TERRITORIAL RIGHTS FOR SALE ON EASY TERMS.

SHUCK'S BOSS BEE FEEDER,



Patented June 11, 1878.

Removes all the obstacles in the way of feeding, by its simplicity, cheapness, and its adaptability to the purposes required. It is to be placed at the entrance outside the hive, and supplied with sugar syrup, or syrup and flour any time in the day, without annoyance from bees, either to the bee-keeper or the colony being fed ; no bees can reach the food except from the inside of the hive. Every bee-keeper appreciates the advantage of feeding to supply short stores for the colony, or to stimulate and encourage breeding, previous to an expected flow of honey.

Prof. A. J. Cook says : "I think very highly of your feeder, and only find fault with the price."

G. M. Doolittle says : "You are just a shouting when you say, 'I trust my Boss Bee Feeder will please you.' It is the best bee-feeder I ever saw, in ease of feeding, simplicity and for general use. When I see a good thing I like to say so. It is worth no less because it is patented."

D. D. Palmer says : "I received your Boss Bee Feeder and would say of it, that I like it better than any I ever saw ; in fact, it seems to be all that could be desired. It is all you claim for it, being so convenient to get at, and being so readily filled without disturbing the bees or being to the trouble of taking off the cover."

SAMPLE, BY MAIL, 30 CENTS.

Address, J. M. SHUCK,
DES MOINES, IOWA.

THE AMERICAN BEE JOURNAL

Devoted Exclusively to Bee Culture.

VOL. XV. CHICAGO, ILLINOIS, JUNE, 1879. NO. 6.

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Editor's Table.

☞ The Express Companies, as well as the freight lines, have considerably decreased their rates. One pound will now go for 25 cents over any or *all* the lines of the different companies.

☞ Prof. Cook's new "Manual of the Apiary" is received with universal approbation; hundreds of unsolicited complimentary letters and notices have been received by the publishers. The third edition being nearly exhausted, another thousand copies have been issued, making six thousand that have been published within three years.

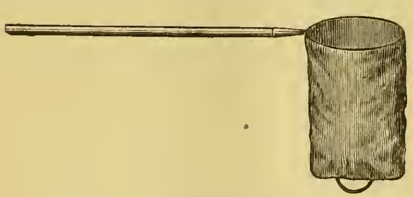
☞ In the *Bee-Keepers' Exchange*, Mr. J. H. Nellis, the editor, reports a loss of 30 per cent. of his bees, which he says is "*traceable largely to the grape sugar experiment*," and his queen-rearing business. This is another striking commentary upon the use of such trash for feeding bees.

IS IT PATENTED?—A correspondent wishes to know if the prize honey box is patented. We answer, No. It has so many "fathers" that it would be difficult even to decide as to its paternity. Mr. Betsinger, of New York, seems to have as much right as anyone to adopt it as his child—and he, over a year ago, generously gave it to the public. Anyone claiming a patent right on it, is a swindler. We hear that such are now canvassing the country. Give them a wide berth.

Our Convention Trip.—According to announcement in the last Journal we visited the following conventions during the past month:

Southern Kentucky,
Central Kentucky,
Western Illinois and Eastern Iowa,
Muscatine District, Iowa.

On our way to the first, we called on Mr. C. F. Muth, in Cincinnati, and enjoyed a day with him in viewing the city, and calling at the apiary of Mr. J. S. Hill, at Mount Healthy, O. Mr. Hill's apiary is in good order, and his bees were working lively on fruit bloom when we were there. Mr. H. showed us his bottle-feeder, for which his hives are arranged, for feeding from an inverted bottle, and reached only from the inside. Also his "swarm-catcher," which is exceedingly handy. We herewith present a cut of it. The bag may be made of factory, having a handle of cloth on the inside as well as the out—making it reversible. With a long wooden pole it will reach any swarm, and when the bees are emptied in front of the hive the handle on the outside gives the apiarist control of it, and when turned inside-out a handle is still on the outside, as it has two of them.



We enjoyed a visit with Dr. N. P. Allen of Smith's Grove, Ky., and his pleasant family, and the neighboring bee-keepers, who came in and spent the evening with us.

At Gainesville, Mr. & Mrs. T. M. Goodnight entertained us very agreeably.

At Lexington we spent Sunday and Monday with Mr. Wm. Williamson, who took us to see the celebrated Horse Farm of Major Thomas. The Major entertained us right royally, and showed us his fancy horses most willingly, one of the best being imported from England, and worth $25.000.

At Hamilton, Ill., we enjoyed a good visit with those excellent apiarists—Ch. Dadant & Son, the Rev. O. Clute, Messrs. Scudder, Palmer and others.

At Muscatine, we had a good visit with Mr. Kirk, Major Allen, the Rev. E. L. Briggs and many others who attended the convention.

We saw some old friends and many new ones, and had an exceedingly pleasant trip of over two thousand miles.

Comb Building.—Mr. Taylor propounds the following question:

> Novice says "that bees gorging themselves, at (as I understand it) *any* season, the same will cause them to at once proceed to comb building?" Is this your idea? I have always thought that after the excitement that caused them to fill up was over, they would disgorge and return the honey to the combs, and become as they were before this gorging. I can not see that this simple action necesarily puts them to comb-making.

We have no evidence that bees build combs for other than two purposes, viz., for storing honey and for the queen to lay in. When the hive contains combs for these two purposes, sufficient for present needs, nothing can induce them to build more. Bees never build comb except for immediate use.

Humbug.—Dr. Decker has sent us a copy of the Aroostook Valley (Me.) *Sunrise*, containing the letter of Mr. Clements, which appeared in the Bee Journal for January, concerning Mrs. Cotton's transactions. That paper then remarks as follows:

> We hope Mrs. Cotton will give our readers the facts in the above case, if not already quoted, and thus free our minds from the suspicion that a female trickster resides in our midst. Mr. Blaisdell of this town gave Mrs. Cotton a challenge through this paper, but as yet we have heard nothing from it, and Dr. Decker, the "bee-king" of Aroostook, informs us that such a statement as Mrs. C. makes is wrong in fact and in principle, for he is certain, from many years' experience with bees, that such yields cannot be made as stated in her advertisement. If Mrs. C. is robbing the people by palming off such cumbersome rubbish as represented, and not fulfilling her agreements, she most certainly should be exposed and the public put on their guard against such fraud.

☞ For the brood chamber the thick comb foundation is superior to the thin. It adds strength to the combs, as well as supplying the wax for building out the cells.

London Show for Bees and Honey.

This exhibition is in connection with the Royal Agricultural Society of England, and will be held at London, June 30 to July 7, 1879. The British Bee-Keepers' Association have offered the following prizes: First prize, £3; Second, £2; Third, £1. (The value of £1 sterling is $4.86.) These prizes are offered for each of the following specifications, making a total of £24, or about $116.14.

For the best Observatory Hive, stocked with bees and their queen, all combs to be visible on both sides.

For the best Hive, on the movable comb principle, with covering and stand.

For the best exhibition of pure honey in sectional supers—each section to be separable, and not more than three lbs. in weight, the total weight of each entry not to be less than 12 lbs. The honey to be submitted to analysis, if required by the judges or stewards.

For the competitor who shall in the neatest, quickest, and most complete manner drive out the bees from a straw skep, capture and exhibit the queen, and transfer both combs and bees into a hive on the movable comb principle. Competitors to provide their own bees and hives. No veils or gloves to be worn.

In each of the classes 374, 375, and 376, a hive of British manufacture, with cover and stand complete, on the movable comb principle, will be presented to the foreign competitor to whom the judges shall award the highest honors.

A letter from Mr. W. M. Hoge, who is now in London, informs us that he has made an entry for such Americans as may desire to avail themselves of the opportunity. The entry is made in the name of the National Association and can be used by any of our American apiarists. Articles intended for this Show must be sent *at once* to Mr. W. M. Hoge, care of Thurber & Co., of New York; they will forward them to Mr. Hoge, who offers to do all in his power to exhibit them to advantage. Particular care should be taken in packing, as freight is handled roughly when stowing away in the steamers. We hope that there will be a good exhibition of American implements and honey. We have already sent off our exhibit, and will take pleasure in showing any that may be on hand, when we arrive in London, which we expect to do about June 30th. Messrs. Thurber & Co. will have an exhibit of 1000 crates of beautiful American honey in the comb.

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☞Those who imagine that it is necessary to tear down the reputation of some one else, in order to build up their own, are usually as shallow-brained as they are evil-disposed. Such are unable to understand why it is "better to *suffer* than to *do* wrong!" But the noble-minded will readily comprehend its force and meaning, as well as endorse the sentiments of the following:

If your *good* be turned to *ill*—Let it pass!
Be you kind and gentle still—Let it pass!
Time will soon make all things straight:
E'en resent not—only wait—
Make your *triumph grandly great*,
Let it pass! Let it pass!

Be not swift to take offense—Let it pass!
Anger is a foe to sense—Let it pass!
Any jealous man may give
Slanders vile that should not live—
But the *noble* can forgive!
Let it pass! Let it pass!

Plato upon being told that he had many enemies who spoke ill of him, said, "It is no matter; I will live so that none shall believe them."

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Bee Enemies.—Professor Cook very kindly offers to receive specimens of bee enemies, and describe them in the Bee Journal. Those having such not yet described may send specimens to him. Attention is directed to the following letter from the Professor:

Lansing, Mich., May 21, 1879.

Dear Mr. Editor: Mr. V. W. Keeney, of Shirland, Ill., sends a spider which had captured a live bee without the aid of a web. I would send a figure and description of this new enemy if I was sure it was much of an enemy. If Mr. K. finds another at the same work I will do so. I am led to think this is exceptional.

May I ask all readers of the American Bee Journal to send me specimens of all bee enemies for description. If alive, inclose in a close tin box; if dead, wrap in cotton and mail in a box. A. J. Cook.

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☞ The American Association of Nurserymen, Florists, Seedsmen, etc., meets in Cleveland, O., June 18-20, 1879. All residing east of Cleveland will apply to T. S. Hubbard, Fredonia, N. Y., for information in regard to reduced rates on railroads, and all west of Cleveland will apply for that information to D. Wilmot Scott, Galena, Ill.

Austro-German Exhibition.

Herr R. Mayerhoeffer, editor of the *Austrian Bienen-Zeitung*, writes concerning the meeting of "The Society of Bee Friends," as follows:

Our society intends to hold a general, universal apicultural exhibition, on the occasion of the meeting of the German-Austrian bee-keepers. This exhibition will contain, (1) living bees, (2) bee-hives, apiarian implements and tools; (3) antiquated bee-hives, not now in use, for the historical section; (4) honey and wax, and divers preparations of them, likewise honey-cakes of all kinds, honey-wine, etc.; (5) bee-papers, and bee-literature generally.

All to be addressed to "the Society of the Bee Friends in Bohemia," in the German language, as follows:

An die Geſellſchaft der Bienen⸗freunde in Böhmen, Prag, Neuſtadt No. 747.

The exhibitors are requested to give their full address, because a catalogue is to be printed in three languages—English, German and French.

I hope that the bee-keepers of America will show their progress in bee-keeping and prove to us that they have widely surpassed the old world in modern apiculture.

For the exhibition, prizes are fixed by the Austrian government, consisting of silver and gold medals. The Society of Bee-Friends will also award medals of gold, silver and bronze, as well as diplomas. R. MAYERHOEFFER.

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☞As correct statistical information concerning the apicultural industry of the United States is very desirable, the President of the North American Bee-Keepers' Society wrote to Gen. LeDuc, Commissioner of the Agricultural Bureau at Washington, to induce him to have it fully reported through the coming general census-taking. The following is Gen. LeDuc's reply:

Washington, May 16, 1879.

THOS. G. NEWMAN, ESQ.:

Dear Sir: I have your letter of the 13th inst. referring to bee-culture, and am entirely in sympathy with this, as all other matters pertaining to agricultural advancement of the country. I will refer your letter with appropriate remarks to the Chairman of the Committee on Census, in the hope that it may receive proper attention. If in any way I can promote the interest of bee-culture I shall be glad to assist you.

WM. G. LEDUC, *Commissioner.*

Moving Bees by Railroad.

Garafraxa, Ontario, May 12, 1879.

1. How many colonies of bees will an ordinary freight car contain; hives being of usual size for movable frames.

2. During a journey of say three days, is it necessary to supply them water?

3. How much ventilation is it necessary to give them, and how ought the combs to be fixed to insure safe transportation in the fall with winter supplies?

Many bees are dead in this part of Canada. My 65 colonies were wintered in the cellar as well as usual, with a loss of one from starvation. The cellar was damp, so I agree with your correspondent, Ira Barber, on that point in May No. April 18th they were set out, as they were getting uneasy after nearly six months' confinement. I rather think "chaff" has met with a check, as being *the* thing for wintering, from accounts in last *Gleanings*. Query.—Why can't we here in Canada have a Bee-Keepers' Association? Where is Rev. W. F. Clarke, of Guelph, D. A. Jones, I. McKay, Tench, Walton, and many others? Surely material and talent is not wanting to form the nucleus of a good society. I. C. THORN, M. D.

[As Mr. T. F. Bingham has had considerable experience in shipping bees by rail, we have procured his views on these questions and give them entire, as follows:]

1. About 70 Langstroth hives will set on the floor of a common freight car. They should fill the car tight from end to end and be firmly wedged, so the car only will receive the jar incident to coupling, stopping, starting, etc., which are beyond the control of the shipper. If the car is not filled from side to side, something must be nailed to the floor so as to prevent the hives from working out of line. Shaking, either endwise or side, is to be avoided at all hazards. The frames are to run lengthwise of the car in all cases. The tops of the frames should be nailed or secured firmly in place, and so fastened at the ends or bottom as to prevent side motion. A wire cloth (No. 10 or 12), covering the hive across the top, is a safe plan; the cover being left off entirely. But if two story Langstroth hives are used, the honey-board may be removed and the cover or upper half fastened on tightly, after being provided with eight or ten two-inch holes, where the air will reach them from all sides, and covered with wire cloth. The latter plan does not furnish as much ventilation, but gives the bees more room to scatter about the sides of the hive and keep cool, and is the plan usually adopted. Air should be supplied at the entrance and through two or three two-inch holes in the bottom of each hive.

2. It is very difficult to supply water to bees in transit, and not essential if they can be kept cool.

3. In cool weather, in October, if they were not going south of the Ohio river, much less ventilation would be needed than if going further south.

An open or stock car is best for shipping bees, as it is cooler. Such a car in motion is very cool. T. F. BINGHAM.

Maddened Bees—Robbing.

Mrs. L. Harrison, of Peoria, Ill., gives in the *Prairie Farmer* the following incident as her Easter morning experience with her bees:

On returning from church on Easter morning, we were met at the gate by infuriated bees, who did their very best to plant their stings. As we and the bees are generally on good terms, we were surprised at their behavior, and inferred that something had aroused their anger in our absence. On investigating, we ascertained that a hive where frames of honey had been stored had an imperfect cover, and that the bees were doing a "land office business" in robbing. We drove out the robbers, put on a good cover, and placed a smoker in full blast on the hive.

Kerosene oil is our "sovereign remedy" for robbing. When bees are prying into every crack and crevice of a hive, bent on plunder, we rub all their points of attack with a cloth saturated with kerosene. It is amusing to see how soon these marauders are converted into law-abiding subjects. "Prevention is better than cure," and great care should be exercised, that no inducements are offered to excite them to this species of warfare. Hives where bees have died should be shut up closely, and no honey exposed in any way, shape or form. Our opportune discovery at Easter prevented our apiary being demoralized. If they had been permitted to carry off the honey thus found, when it was finished, they would have tried to rob the weaker colonies, and stung every person and thing within reach. Sometimes when we are cutting out drone brood, if the bees get at the milky fluid it excites them to sting.

A good smoker is an absolutely essential implement in every apiary. Had Mrs. Harrison not had such at hand, she would have had trouble, and the loss of several queens and colonies may have been the result. We can do our readers no greater favor than to say—get a smoker, and always have it ready for use, in case of need.

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☞A correspondent asks: "Must bees have water in the cellar when they commence to raise brood in the spring? What is the best way to feed bees flour in the cellar? Where shall I put it?" We answer: History proves that water is not a necessity; some have thought it might prove advantageous, but many of our most learned apiarists think not. Flour is not fed in confinement, but after the bees are out, and on the wing. It is then spread out in flat dishes or on boards, in the sun and out of the wind. It is of no use *after* natural pollen appears.

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"Quinby's New Bee Keeping."—This is the title of the revised edition of "Quinby's Mysteries of Bee-Keeping." It is thirteen years since the late Mr. Quinby's work was published, and the many new inventions were therefore untouched in it, hence the necessity for re-writing. This has been admirably done by Mr. L. C. Root, his son-in-law and former partner, who was, therefore, the better able to give the truest interpretation to Mr. Quinby's views of the improved methods of bee culture, to which he devoted the last few years of his useful life. Mr. L. C. Root has fully sustained Mr. Quinby's reputation as a vigorous writer, and being a cultured apiarist, has added to the original work all that was omitted—bringing it down to the present time, in the matter of improvements, presenting the reader with a clear and concise statement of his views on all the apicultural questions of the day.

It contains a memorial of Mr. Quinby, written by his friend, Capt. J. E. Hetherington, of Cherry Valley, N. Y., in which he pays handsome tribute to the memory of the late distinguished apiarist and author.

It is finely illustrated and printed, and is published at $1.50, by Orange Judd Co., New York, and may be obtained at this office.

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☞ On p. 195 of Bee Journal for May, in article on "Buckwheat." "$1.00 to him," should read "$1.00 *per colony* to him." As it appears in the article, it is indefinite. Please correct. A. J. Cook.

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☞ The Annual Autumn Bee and Honey Show of Denmark will be held at Copenhagen, September 17th and 18th, 1879.

The Bees and Fruit Trees.

So much has been said and written about Bees injuring Fruit Trees that the following interesting incident related by Mr. William Carr, in the *British Bee Journal* for May will be read with interest. Speaking of the plum, pear, cherry, apple, almond, peach and other fruit trees, Mr. Carr says :

> All these fruit-trees yield a great quantity of beautiful and highly flavored honey, and when in bloom the bees are working from morning to night collecting the honey and pollen, and fertilizing the bloom. We should have little fruit if it was not for the agency of bees. All good fruit-growers keep bees to fertilize their fruit-bloom.
>
> This reminds me of my visit to (our noble and good President of the British Bee-keepers' Association) the Baroness Burdett-Coutts' residence at Highgate, on April 8th, 1870. When I went into the peach-house, the gardener said to me, " See what a quantity of peaches I have got set!" I said, " You have, indeed; how do you account for it?" "Well," he said, " I have always kept bees to fructify my fruit-bloom; but last autumn I bought a stock of Ligurian bees, and they being hardier than the common bees, began working earlier, and got into the peach-house just as the trees were coming into bloom and the result is I have nearly double the quantity of peaches set I ever had before."

☞ Mr. P. Miller, of Fredonia, N. Y., has sent us some tin points for glassing sections. They are three-sixteenths by five-eighths of an inch. One end is sharpened for driving into the wood of the section. This shape holds the glass exceedingly well, and will be a favorite among those who glass sections.

Part IV of Novice's A B C of Bee Culture is received, embracing subjects from R to T. One more Part will finish the book, and then it will be sold for $1.00. It contains much information and is specially adapted to beginners. It is illustrated with numerous engravings of tools for the apiary.

☞ A club for the Bee Journal may be sent all to one post office or to as many post offices as there are names in the club.

☞ A colony for California is being formed by Mr. J. P. Whitney, 14 West Swan St., Buffalo, N. Y. who will send a pamphlet concerning it to any one interested.

☞ A correspondent who is endeavoring to institute a Bee-Keepers' Association, asks how often it will be best to have the meetings held. This is a matter that the bee-keepers forming such an Association can determine for themselves. They may be monthly, quarterly, semi-annually or annually. Those associations that are the most noted for their influence and best results, hold their meetings semi-annually. When meetings are held too frequently they often are thinly attended and become less and less interesting. It is far better to have one or two meetings in a year that are successful than twelve that are poorly attended and uninteresting. We notice a growing inclination towards the semi-annual gathering, and we really think they are the most desirable.

☞ Mr. James Heddon asks if any of the readers of the Bee Journal have observed that propolis dust is extremely irritating to the bronchial tubes? Any one having made observations in this direction is requested to answer Mr. H.'s question.

☞ Unless he is a good workman, no bee-keeper should attempt to make frames, hives, honey boxes, crates, &c, for his own use. They will not only cost him more than those he could buy, but will not be half as good. The making of frames and boxes require skill with tools; they should be all accurately cut, smoothly finished, and be perfectly interchangeable.

Repairing the Loss.— Many colonies have been lost during the past winter and spring, but the loss is not irreparable. The hives and combs are left. These are valuable and can be used to much advantage. The loss of the bees is a small matter, comparatively, as good fertile queens will soon rapidily augment the number of bees, if the summer is favorable, and the secretion in the flowers abundant. Clean the hives and combs, feed the weak colonies if necessary, keeping them warm, and stimulate for brood-rearing, dividing the populous colonies as fast as needed, and the losses will soon be repaired, at least in part.

Our Letter Box.

Milan, Ill., May 12, 1879.

My 77 colonies of bees wintered without loss in a dry cellar. Bees doing nicely, but unless we get rain soon, the white clover will be cut short. C. H. Dibbern.

Bear Lake, Mich., May 13, 1879.

I put 26 colonies in the cellar last fall and took out 25 this spring. All are in fine condition, filled with brood. Some are about ready to swarm. D. H. Hopkins.

Glenwood, Ill., April 5, 1579.

I put 117 colonies in the cellar about Jan. 1, 1879; have now lost 5. The weather is cold and dry and the prospect not very promising. On page 132 of March No., 1878, was printed a letter from me but signed "C. L. Frost;" please correct it.

C. L. Sweet.

New Lenox, Ill., May 5, 1879.

I see by the Journal a number of bad reports in regard to bees. Mine are in fine condition. I lost only one out of 131 colonies. The hives are well filled with bees and drones are flying. We need rain badly to bring on good bee pasturage, as the ground in this section is very dry.

Frank Searles.

Hamilton, Ont., May 10, 1879.

I was down to see my bees yesterday. Some colonies were a little weak, but all are doing well. Orders are coming in so fast that I can scarcely attend to them. It is far beyond my expectation. I thought your rates of advertising a little high at first, but now think it the *cheapest* and *best* advertising medium I ever used.

W. G. Walton.

[That is the universal verdict. We are glad the Bee Journal gives such general satisfaction, not only as to its reading matter but also its general character and management. To *merit* approval is our greatest aim.—Ed.]

Brandywine Summit, Pa., May 1, 1879.

Bees in this locality are doing well. On April 30 gathered a quantity of honey from cherry and apple bloom. Some colonies got as much as 7 lbs. We are about ready for harvest. We have just completed our hives and frames and commenced to transfer. The condition of our bees promise a large yield of honey unless the secretions fail, which they never have done within my memory. J. T. Williamson.

Holyoke, Mass., May 5, 1879.

My bees are doing well; I wintered 10 colonies, 9 in my cellar and one out of doors. One died with dysentery, the others are all right. I fed some on sugar syrup, and should in any case in the spring, as that is their greatest time of need. I don't intend to increase very much, as I live in the city, and there is not much forage except what they get out of town. Luther A. Taber.

Chillicothe, Mo., May 6, 1879.

Ed. A. B. J.: You misunderstood my question when I asked whether or not rubber bands might not be used to hold section boxes together. I did not mean bands as substitutes for nails in holding the *pieces of a section*, but in holding the several sections to form a box of them. It seems to me that if the sections are as much as ¼ inch thick and for two combs, well nailed, that a good rubber band might be used to form a section box. J. W. Greene.

[We are sorry for the misapprehension. We see no reason why a rubber might not be used successfully to hold several sections together. A bent wire, such as Mr. Heddon uses, is also a good plan. See April number, page 159.—Ed.]

Palestine, Ind., April 28, 1879.

The Journal is a welcome visitor. My bees are all in good condition. I did not lose one colony, and yet the winter was extremely cold. I had drones flying the 20th of April. M. E. Loehr.

Bethany, Ill., May 5, 1879.

Our bees gathered pollen March 10 to 12, and no more till March 20 and 21; then they did nothing more till April 20. Since then they have gathered plentifully of both honey and pollen. They are in fine condition and drones have appeared. I wintered 31 colonies out of doors and lost none. The Bee Journal and Langstroth on the Hive and Honey Bee are my counsellors.

A. M. Rhodes.

St. John's Co., Fla., May 9, 1879.

I purchased in Jacksonville last October, 6 movable frame hives of Italian bees. They then did not have a pound of honey in all the hives, but there was plenty of comb. They remained out of doors during the winter, and there were very few days but what the bees would be out to work. During the past month I have divided 5 of the colonies and obtained 5 new strong swarms; the first was a natural one, and all are now doing well. A. S. Areson.

West Bay City, Mich., May 5, 1879.

There has been great loss in bees here during the past winter and spring. I hear of one man who lost 150 colonies; all he had. I did not learn whether they were wintered in a cellar or on summer stands. I put 11 colonies in the cellar. They did well till April 1. I examined them and found 2 dead; one starved, the other had plenty of honey. On the 20th I again examined and found one more dead and two others very weak. I then took them out of the cellar and put them on their summer stands; the 2 weak ones had no queens. I put them in another hive. The remaining colonies have plenty of brood and honey, and are doing well. I am a beginner. This is not very encouraging, but I see by the Journal that the past winter has been a hard one on bees. I like the bee business and shall continue it, with the assistance of the American Bee Journal. I think a great deal of it and would not attempt the bee business without it.

The combs that the bees died on were covered with a dark colored substance that smelt bad. Was it dysentery that killed the bees? Will it do to put those frames in other hives? There is considerable honey in them. HENRY S. WALRATH.

[It was evidently dysentery. The combs may be used without danger in other hives. The bees will clean them up.—ED.]

Linden, N. Y., May 5, 1879.

I have wintered 16 colonies of bees and lost 2, one queenless the other of dysentery. I packed them in chaff; they are all in nice chaff now; hives full of bees; they are now gathering some honey from dandelions. Many bees have died in Genesee and Wyoming counties this winter, that were left on their summer stands; one man has lost 18 out of 20; another 50 out of 75; another 6, all he had. Fully 50 per cent. have died, and the rest are generally weak.

JAS. S. LORD.

Mahoning Co., O., May 3, 1879.

Bees in this locality have not wintered very well; from 25 to 50 per cent. having died. I have not lost as many as some. Those wintered in-doors came through in good condition. The greatest loss occurred to those wintered on their summer stands, no difference how protected. "Experience teaches in a dear school," but a certain class learn only by it. I cannot see why all do not read some good journal, say the AMERICAN. I have found it worth many times its cost. Therefore, I say success to the AMERICAN BEE JOURNAL. LEONIDAS CARSON.

St. Charles, Ill., April 28, 1879.

The bees in this county (Kane), wintered in cellars have come out in fine order—never better. Of those wintered out doors 25 or 50 per cent. have perished. Bees in-doors were generally put out the fore part of March. They are now at work on willow, hard maple, cottonwood and dandelion. They get some honey and considerable pollen. White clover has wintered finely, and the prospect for a large yield of honey therefore is flattering. We have had so much cold spring weather that we may have a warm spell when fruit trees are in bloom. If so it will be an unusual occurrance.

M. M. BALDRIDGE.

Brecksville, O., May 12, 1879.

Bees came through with a loss of 2 colonies only, the balance in fine condition. The changeable weather since, however, has made it necessary to consolidate a few of the lightest, and we shall go into the season with 40 good colonies of the 46 put in the cellar. The 2 packed in chaff outside came through as good as the best, notwithstanding the severe winter. Probably the loss of bees in this section in wintering will exceed 50 per cent. The mortality has upset all our theories. One man wintered all his bees with no protection; another lost all under similar circumstances. But our best and most careful apiarists have lost heavily, and the ways we account for it would fill volumes.

CHAS. S. BURT.

Newhall, Cal., April 26, 1879.

Please answer the following questions in the next BEE JOURNAL: Have you or any of your readers had any experience with pine honey barrels not waxed? Is it absolutely necessary to wax them? Will honey dissolve glue if barrels are coated with it; or will the glue give a bad taste to the honey? Is there anything equally as good for coating as wax, but cheaper? Do you know of any drinking vessel for chickens, where bees will not drink also? I use a tin can, straight up and down, and bees cannot well go in or out, yet every day there are some about it and they get drowned. If I use a wooden vessel the bees crowd out the chickens, although they have a much handier place to get water—a trough with a raft or float in it.

D. C. MENSING.

[We have had no experience with pine barrels. If any of our readers have, we should like to hear the result. Oak barrels do well for honey without waxing.

We know of no way for watering chickens out of doors that will exclude the bees—the latter being the smallest.—ED.]

Concordia, Mo., April 24, 1879.

I noticed an article in the April number of the AMERICAN BEE JOURNAL, p. 166, on a "New Method of Hiving Bees." It appears to me that it is a poor method to sprinkle bees when they issue to swarm, because it very often makes the queen turn back and also a good many bees go back again, and you will often have a failure. My method for 20 years has been to catch swarms in sacks when they issue, made for that purpose. I cannot see how an apiarist can have success without catching swarms when they issue, and I hardly believe that a better plan can be invented than to catch them in sacks. I am only puzzled that this method is not better known among our American bee friends. CHRIST BRUNKE.

Winchester, Ill., May 4, 1879.

My 22 colonies came through the hard winter splendidly. Had drones flying from No. 20 in the middle of April. It is so very dry I have delayed putting on supers, but to-night I find one portico hanging full of bees. Fourteen colonies were in hives with two walls, each ⅞ thick and ½ inch dead-air space; they have done best. Three were in telescope hives holding 8 Quinby frames; outer wall or cap only ⅜ thick; inside wall full inch with ½ inch dead-air space. Three had 8 Gallup frames; hives made same style as last; but while all did well the larger frame is the strongest now. One in box hive, put in a dry-goods box, packed in straw, and covered from wet, with passage for bees to pass in and out, did very well; and a sassafras "gum," with stakes driven about and well packed with straw, with small entrance open, also did well. I put new quilts over my frames last fall, but the bees enameled all they could get at. A neighbor had a colony in my single-walled hive with an old gum cloth over the frames and it wintered well, but he had another very strong colony in my double-walled hive which he let go into the long cold snap with a sack with 2 half-filled sections over them and they froze or smothered, as ice blocked the entrance and formed all over inside the hive, though it was well made and had a close-fitting cap. You cannot smother bees by burying hives in snow, but let solid ice block the entrance and they will generate carbonic acid gas enough to kill them. I shall get all to 10x12 frame this summer except a few in Armstrong's Centennial hive. Shall not have a hole or crevice of any kind in a hive except the entrance. Professor Cook is right there. Dr. Foreman gives a good idea as to size of sections in the Journal for May. Thurber & Co. prefer the 4¼x4¼ sections. I think Mr. Langstroth errs when he says fresh paint is distasteful to bees, for I can paint nothing when they are flying without having them about. Have done some transferring and found plenty of old honey in the hives, but I hear of a considerable loss of bees hereabout. Mine went into the winter with from 30 to 60 lbs. per hive, and I do not think my largest colony ate 10 lbs. during the winter. This season I shall get to 50 colonies, and shall turn my attention more to improving the breed rather than to increasing the number of colonies. What is worth doing at all is worth doing well. Wm. Camm.

Traders' Point, Ind., May 12, 1878.

I packed 40 colonies last fall in straw, moved my hives near together and packed between them and the north with straw, leaving the front to the south open, and let them fly at will. I do not pack until winter sets in, and I put them out early in spring. In this way I have not had much confusion by mixing. I took out 37 this spring and they are all alive now and gathering honey. I never had my bees in better condition. To the southwest, six miles, the bees are in bad condition. There were several cider mills of large capacity in operation in that vicinity last fall, and nearly all the bees are dead. One man lost 34 colonies and has only one left. What had the cider to do with it? For two years in succession (1876 and 1877) I set my bees near together, made them mice-proof, packed straw between the hives, then covered them up some two feet deep and left them until spring with a little ventilation at the ground. I had no shed the first winter. They came out all right. The second winter was very warm and wet and in February I took them out.

I. N. Cotton.

[The bees had sour cider for winter food instead of honey, and for that reason they perished.—Ed.]

Lawrence, Kansas, May 10, 1879.

There appears to be a dislike to the wire foundation from the tendency it has to corrode, and the bees not taking to it kindly in consequence. The Government stamped envelopes in England have strong silk threads interwoven diagonally in the tissue or pulp of the paper for protection against fraud. It occurred to me that silk thread might be used instead of wire, if stretched tightly over the machine, as it is a non-yielding substance, very strong, and would not become rotten for a length of time. Yellow or white silk would harmonize with the color of the wax. If you think the suggestion feasible, perhaps you will give it for the benefit of the foundation makers.

My invention for regulating the entrance of the bee-hive has an advantage over "The New Langstroth Hive," inasmuch as it not only gives me a quick and ready control over the entrance, but it admits of sufficient air at all times to enable you to move the hives about, and at the same time it keeps the bees from coming out, and it is rather an ornament to the hive than otherwise.

Would it be possible to hang temporary separators on the rabbets between the frames on starting a colony so as to insure straight combs, and then remove them when the combs are built? They might be hung on a wire. W. O. Carpenter.

[It is possible to hang temporary separators as suggested, but we doubt its desirability. As to the silk threads, manufacturers of comb foundation may take the hint.—Ed.]

Macon, Mo., May 12, 1879.

I think that too much space to keep warm was the cause of so much destruction among the bees during the past winter. In box hives the chamber cannot be controlled, and where long frames are used, and a few frames are closed up with a division board, the bees are spread out too much. The nearer to a cube for the cluster in winter the better. After selling several colonies last fall, I wintered 31; all came through nicely and are at work on the raspberry and other bloom. I used 4 division boards; I put 2 across the hive just long enough to take the frames lengthwise of the hive and then used one division board each side, closing them up to 5 or 6 frames. Over the top of the frames I use a cotton batten mattress. This gives me a double-walled hive with dead-air spaces all around and the bees in the center. The extra division boards cost only 10c. each. The thermometer was down to 26 below zero here last winter.

C. Eggleston.

[We suppose Mr. E. uses the Langstroth hive with frames running crosswise, or something similar, in order to give the air spaces as he describes.—Ed.]

East Gloucester, Mass., May 5, 1879.

Mr. Newman: I see by Mr. Manning's catalogue of 1879, that Mr. Parsons of Flushing, N. Y., has the credit of calling your attention to my Sweet Pepper as a honey shrub. It appears the signature "A. Parsons," of my article in the February number of A. B. J., p. 58, was understood to be that of Mr. Parsons, instead of Miss Parsons, and as such, Mr. Manning has sent about 10,000 circulars, containing descriptions of this fragrant plant (*Clethra Alnifolia*) all over the United States. I am much pleased that you should consider anything I wrote to be of sufficient value to give a prominent place in the Journal, and am anxious that bee-keepers should know and appreciate my old familiar friend (the Sweet Pepper), and the many good qualities possessed by it. The honey is milder than that of clover, growing in its wild state in swamps, near, and on the borders, and increasing in proportion to its nearness to the sea shore.

I thought if it could be of service in the bee direction, no matter if not known who called attention to its cultivation as a bee forage plant, but when all the credit is given to another, this I consider an injustice to Mr. Parsons as well as myself. Please rectify this mistake in your next number of the JOURNAL. AMELIA PARSONS.

[We are sorry for the misapprehension, but no one would be able to tell from the simple signature of "A. Parsons," whether it was Mr., Mrs. or Miss. Mr. Manning will no doubt cheerfully make the correction.—ED.]

Otley, Iowa, May 3, 1879.

Father and I put 137 colonies of bees in the cellar, about Nov. 20th; some were small nuclei. We took them out April 13th to 20th, and lost only 2 queenless colonies while in the cellar. We have lost 2 or 3 since taking out of the cellar, by neglect, as they got out of honey. We moved 30 colonies about 1½ miles, and kept 105 at home. I think we have as much as 150 acres of white clover pasture, within 1½ miles. Have we too many bees in one place for our locality? Basswood is quite plenty within the same distance. Buckwheat, together with numerous fall flowers, make pasture quite plenty in the fall. Fruit trees are coming into bloom nicely now. I think, for some things, this season is a month behind last year. Father died last February, so I will have to attend to the bees this summer myself. I prevent increase as much as I can, and run bees mostly for box honey. What is the shortest distance it will do to move bees after they have marked their location?

W. C. NUTT.

[A good yield of honey from an apiary so well located as yours, is a reasonable expectaion. Though possibly not as much *pro rata* as you would from fewer colonies.

Bees moved less than 3 or 4 miles at this season of the year are apt to perish in considerable quantities. If moved a short distance it should be gradually done. An obstruction placed at the entrance, to cause them to re-mark their location is essential, if moved more than a few inches.—ED.]

Richland Springs, Tex., April 18, 1879.

I am on the frontier of Texas, in San Saba county, with 95 colonies of bees, all in good condition. Try this: Transfer your bees late in the evening, early next morning put them on a clean bottom board, stopping all the cracks, then with a rag wet with kerosene, rub all the cracks and front end of bottom board, and all is done. Clean up all waste before morning. Bees brought in pollen almost every week last winter. This is a land of milk and honey.

R. DEVENPORT.

Chippawa Hill, Ont., April 26, 1879.

Bees have not wintered well, on the average, in this part of Canada. I have lost 9 out 16. W. K. MOORE.

Otsego, Mich., April 26, 1879.

From ⅜ to ¾ of all the bees in this vicinity are dead. The old question—"What is it?" I have lost 10 colonies, and am convinced that it is a disease to all intents and purposes—notwithstanding, some think otherwise. T. F. BINGHAM.

Downsville, Wis., May 7, 1879.

My bees have wintered well and drones are commencing to fly. Fully one-half the bees in this section died the past winter and many colonies are still dwindling.

A. J. TIBBETTS.

Augusta, Ga., April 24, 1879.

Bees in this section have been set back by a very hard freeze which occurred about April 6th; this was followed by a succession of heavy frosts that killed all the bloom. There have also, this spring, been high winds and heavy rain. J. P. H. BROWN.

Smithsburg, Md., April 28, 1879.

I had drones on the 6th of April, from the nice yellow queens which produce those nicely marked drones; who can beat that with imported queens in the same latitude? I live 4 miles south of Mason and Dixon's line. My Imported stock are from 15 to 18 days behind, and they were behind last year in swarming and honey gathering.

D. A. PIKE.

Wellsville, O., April 25, 1879.

I had 112 colonies last fall in good condition, but with too much honey in the hives. I was very busy and left them on summer stands, and now more than ¾ are dead. I have kept bees for the last 30 years, sometimes having as many as 500 colonies, but never had such a wholesale slaughter. Some in this section have lost all, and some have given up in despair.

D. S. SILVER, M. D.

Westfield, N. Y., March 13, 1879.

We have had but a few fine days since Dec. 1st; it has been intensely cold and stormy nearly all the time. It has been a hard winter for bees, but mine are in the best possible shape for a good season's work. They had a good cleansing flight on the 9th and 10th of March. I examined them and found brood in from 4 to 5 frames in each hive in all stages. I have not lost a single colony during the past two winters. I winter in a frost-proof building, putting them in as soon as cold weather comes. I take out one or two frames of comb and spread the rest in order to give more space between the combs for the bees to form thick clusters. I ventilate them by leaving the cap on the hive with one or two of the box holes open and about one-half of the front entrance open. This leaves no draft through the hive, and at the same time lets off all moisture, leaving the combs dry and free from mould. Many lose their bees by spring dwindling; this I think is caused by letting them fly out in the cold days of the spring. I am never troubled in this way; I let them have a good fly in March, and then let them remain in the house until the weather is warm enough for them to fly and get back. If bees are managed in this way there will be but little loss in wintering or spring dwindling. I wish some who have been unsuccessful in wintering would try my plan and report results. Be sure to have the building dry. F. HARDINGER.

Waveland, Ind, May 10, 1879.

Yesterday my bees were gathering honey dew from the sugar-tree leaf. The leaves were covered with a fringe like little pins or red briars. The sugar-tree bloomed on April 20th, and bees got a good start, built comb, and commenced breeding nicely. I inclose a sample of comb foundation made on the plates I got of you. I have to press two sheets at once to prevent cutting holes at the base of the cells. I send a sample of that pressed single and also double. I keep a pan of warm suds and draw the sheets through it; then, when pressed, commence at one corner and separate. It is very easily done. I make from 6 to 9 feet per pound. Will some one give a plan to clearify wax? I know no way but to strain and settle.

PETER JAMES.

[The foundation sent us is very well made, and quite thin. The making of two sheets at a time is a good plan; at least that is by far the best sample of the two. The cells are not as regular as when made on the rolls, but it will be as readily used by the bees.—ED.]

Limerick, Ill., April 29, 1879.

I think the loss in bees about here last winter and this spring, is equal to any 2 years heretofore. Last season it was a tedious job for me to nail frames true; but in the BEE JOURNAL for October I saw an engraving of a frame holder, so I made one from that design, and the time gained by using it while nailing my frames, over last year's way, if employed on the farm in plowing, would pay for the frame holder and the BEE JOURNAL, too, for one year.

E. PICKUP.

Wrightstown, Wis., May 5, 1879.

There has been great loss among the bees throughout Northern Wisconsin. About ⅔ have died. Many beginners have lost all of their bees. Some that have been keeping bees for years, and supposed they understood the whole science of bee-keeping, have lost heavily. One man that has kept bees for 17 years, and was formerly very successful (and two years ago announced he had the science complete, and stopped taking the BEE JOURNAL) waged war against all scientific research, and from a small man, grew immediately to a Goliath; but "how are the mighty fallen." He cannot hide the fact that his bees are nearly all idle in death. I placed 27 colonies in my bee house last fall and lost one. Since putting them on summer stands have lost two that were weakened by cholera. I have built a bee house which I am satisfied will prove a success for wintering. I will at some future time forward a statement in full of my building, which is not expensive and which will ultimately be "The house I prefer." In due time I will endeavor to give my plan of preparing bees for winter.

CHAS. R. CLOUGH.

Santa Anna, Cal., April 13, 1879.

Will the queen larvæ from a pure Italian mother be developed as duplicates of herself by black bees; or, in other words, will the royal jelly deposited by black bees have any influence in changing the blood or purity of the Italian? The prospects for a good season for honey-gathering in Southern California are fair. Rainfall since November from 5 to 9 inches. Vegetation and crops growing briskly. We heartily wish that the circulation of the JOURNAL may be extended until it shall find its way to the hand of every apiarist. THOS. L. FRAZER.

[From my observation, as also from the physiological principles involved, I am strongly of the opinion that the character of the nurse-bees, as to purity, has no influence on the larval workers or queens. I believe that the queen from a pure Italian queen, mated with a pure drone, will certainly be pure. Some apiarists of wide experience and observation, are, however, of contrary opinion, among whom is M. Metcalf. It is so difficult to know that our queens, even though apparently pure, have not a trace of impure blood, as also that the drone with which she coupled, was not also slightly tinctured with foreign blood, and as we know in all animals even a trace of impurity will sometimes push itself into marked prominence after being dormant for years, we see it is easy for such persons to be deceived. Still, many points connected with reproduction are veiled in doubt. We have much to learn as to the influence of coition on the female, and possibly much on the question at issue, the influence of the nurse-bees to modify the physical characteristics of the young which they attend. There is no full exposition of the subject of royal jelly, so far as I know.—A. J. COOK.]

Golden Plain, Ill., March 28, 1879.

My bees come through the winter in good condition, with few exceptions. I lost none while in bee house—one queenless; left the hive after taking out and went into another hive, and during the late cold spell two starved to death, which makes a loss of 3 out of 137 put in bee house. All the hives I have looked into have combs nice and bright, and they commenced breeding rapidly before taken out of bee-house. The worst trouble this winter was to keep the temperature low enough, especially after they began breeding, and I found one of the best ways of quieting them was to fill a sponge with water and lay on the bottom-board at the entrance of the hives. Several times I found my bees hanging out in front of the hive, as they sometimes do in hot weather. My ventilation holes in the wall under the floor were not large enough for the bees I had, and I could not enlarge them this winter. R. R. Murphy.

Kenton, Tenn., April 13, 1879.

"Our pets" suffered severely during the extreme cold weather the past winter. Many still use the old-fashioned box hives. Last spring their bees swarmed excessively with very unfortunate results, weakening the colonies so that they either perished from starvation or cold, or became an easy prey to the bee-moth. One peculiarity of last summer's work was that the bees gathered an insufficient supply of pollen and many of them literally starved to death with an abundant supply of honey.

H. T. Fullerton.

Sullivan, Ind., May 8, 1879.

My bees are all in box and log hives; they do not rest on bottom but are suspended in a sack or frame and the bottom is suspended; they have no protection except boards temporarily set upon the west side, where is also a paling fence. In each of the 5 box hives was made a ½ inch hole near the top, bottom closed except 3 ½ inch holes; the logs have no opening in top except into the cap for honey, all got through in tolerable condition except one that was weak in the fall. I read the Journal, and have procured movable-frame hives and will transfer.

Geo. Goodwin.

Rome, Ga., May 13, 1879.

The season for 1878 was one of the poorest ever known in this locality for bees; the winter also was cold, much more so than usual, and many colonies perished. The present spring has been cold and wet, and bees have been backward about swarming. They commenced work near the middle of April and are gathering honey rapidly now. In a previous number of the Bee Journal allusion was made to my experiment with foundation made upon tin foil. The frames used for this test were very nicely and handsomely completed, without sagging in the least. We concluded to experiment still further, and we now have bees at work on this foundation, and we propose to show, in a short time, "*honey in comb*" one "*solid foot.*" A. F. Moon.

West Creek, Ind, March 24, 1879.

In the spring of 1875 I purchased 6 colonies of bees in box hives; these gave 11 swarms, which I wintered in old gums and cracker boxes, sitting on a bench out in the yard without any protection. That winter I received a circular from N. C. Mitchell, and I got a township right of him, but sold no hives, for the Mitchell system did not suit me. My bees increased to 47 colonies, and I had some hives cut double the last of the swarming season and put 5 late swarms in them, and left them on the summer stands. The Mitchell hives I moved up together and covered them with straw while the cold weather lasted, and then set them on the summer stands, and when apple blossoms came I had 13 good colonies and 3 poor ones. I started afresh in 1877, and went into winter with 42 colonies and came out with 41; the millers killed one. The year 1878 found me on the road to success, as I thought. I bought 125 hives of Sperry & Chandler and put 51 swarms into them, intending to transfer the bees from the Mitchell hives this spring. My bees were well stocked with honey. I put a wide board up in front of the hives and covered the hives with straw about 3 feet thick, and when the cold and deep snow came I piled the snow on the back part of the hives to keep the wind off. The front of the hives were left so that I could lay the boards down and let the sun shine on them. The Mitchell hives I left on the summer stands and lost 12 of them. Of the 51 colonies in the North Star hives 37 died. The five I have in the double-walled hives are to all appearance in just as good condition as last fall. My profits so far are nothing. My son had 22 colonies in North Star hives. He moved them away from here when the snow came, and intended to cover them, but that night the big snow storm came and it turned so cold that he banked snow up around the sides and back, and they all came out right, except one that lost its queen. The bees attempted to raise another, and had two queen cells sealed over, but they perished before the cold weather broke. Nearly all the bees in this vicinity are dead, and it will be a poor place to sell hives this season.

I expect to attend the National Convention this fall at Chicago, and would like to know whether there is any fee to pay in order to become a member, or whether any one is allowed to attend. J. P. Spaulding.

[All are welcome to attend the National Convention, but those who become members pay $1 a year, which entitles them to a voice in the management and helps to pay the necessary expenses.—Ed.]

Hastings, Minn., April 27, 1879.

Bees have not wintered as well as usual; I have lost more than for several winters before. I attribute it more to the house than any other cause. It was built by a neighbor on purpose for wintering, capable of holding over 200 colonies. I lost 10 out of 49. Mr. Morse, the man that built the house, lost 38 out of 52. Rev. Mr. Bosteon put in 65 and took out 31 alive, but many of them very weak, and I understand has lost several more since. Another man, C. O. Ball, put in 6, lost 2. Many of the hives came out very mouldy. Those covered with quilts, with tight bottoms, were the worst. Those wintered in dry cellars came out all right. Rev. J. F. Wilcox, of Northfield, put in 25 colonies, lost none. Also, Mr. Cocayne, same place, put in 42 with same result. Their cellars were very dry and nice. I looked them all over, and never saw bees come out with cleaner hives or combs; not a particle of mould. Mr. Wilcox uses the Langstroth style of hive, caps off, with quilts on, piled up 4 deep. Mr. Cocayne's were mostly in box hives and log gums. They were large frame hives, with caps on, but openings in the honey boards, all wintered with like results. But 21 colonies of one lot, and 20 of Mr. Wilcex, for another man, examined every hive and know whereof I speak, and as I have wintered for three winters, prior to last, in a dry cellar, I come to the conclusion that there is no better plan, or better way than a good dry cellar. Bees are now doing well. I hope we may have a good season. WM. DYER.

Tyre, Mich., April 28, 1879.

We had bad luck the past winter with our black bees, losing about 130 colonies. We commenced Italianizing our apiary last summer, and the changed breed survived through our long winter without any loss, under exactly the same circumstances. We have been keeping bees about 10 years, and have held mostly to the same stock. Our last winter's experience seem to show that a change of blood (as we would say in cattle-breeding) is of paramount importance. We commence this spring rather low—16 colonies, 7 of which are hybrids. We have used heretofore a hive after the Langstroth pattern, made from a description in "Quinby's Mysteries of Bee-Keeping." We like it, but think there might be a better one for wintering in. We have experimented with bee-houses, with but poor satisfaction, and have generally wintered on summer stands, with good success until last winter. The trouble with our black bees was dysentery, or, more properly speaking, bee cholera. The hybrids, in their midst, escaped the disease entirely. We shall continue to keep some black bees for comparative experiments, but are convinced of their inferiority.

I. V. SHEPHERD & SON.

Theresa, Wis., April 4, 1879.

The following is my plan for successful wintering, and keeping the colonies strong in the spring. My hives have two stories; the lower one has 9 brood frames 12x12 or 10x14, and the upper story has frames also, for comb honey will not pay as well at 14 or 15 cents as extracted does at 10 cents. I extract from the upper frames only till the latter part of July. By that time the brood frames will be filled with brood. I leave the upper frames on until the honey season is over in order to keep up brood-rearing till October, when the honey in these frames will also be capped. The queens should be superseded before the third winter. Last fall I put them into my cellar Nov. 1st, after putting quilts over the frames. I leave the lower entrances open, keep the cellar dark, and then leave them alone till time to take them out. If mice are troublesome I poison them. If they get uneasy early in March, they need water, and I fill a saucer with fresh water, putting a little salt in it; put a few rags in the saucer and place it under the quilts, so that the bees can get it easily. About March 15th, on a warm day, I give them a chance for a fly for a day or two. If necessary I feed them, and then return them to the cellar till about April 10th; then, if not too cold, I take them out and feed them a little on top the quilt, and put on the upper story; then they will be strong by May.

JOHN H. GUENTHER.

Waterloo, Ky., April 22, 1879.

This has been a very trying winter and spring on bees with us. More than one-half died last winter. Some persons who had from 12 to 20 colonies in the fall have lost them all. Starvation, cholera, and spring dwindling were the principal causes. The season has been very unfavorable until now. A few bright, warm days have started vegetation very fast, and our little pets are improving every moment, yet many colonies are so weak that I am fearful they will make no surplus honey this season. A few of us who read and followed the AMERICAN BEE JOURNAL have done well. I began the winter with 27 colonies and lost 6. I have sold 6, and now have 15, all Italians. Bees wintered better in Langstroth hives than any other. My hives are similar to the one recommended by Professor A. J. Cook, with frames 10½x12 in. L. JOHNSON.

Bairdstown, Texas, May 8, 1879.

Yesterday I found one young queen with the old mother in the same hive; she was concealed in a festoon of comb-builders, who I suppose were guarding her. A neighbor claims that he frequently finds four or five at one time in a hive. This is a digression from the theory of authors on the subject. What do you think of it, Mr. Editor?

W. A. MILLING.

[Usually only one queen is tolerated in a hive, still this rule is sometimes exceptional. We have often published reports of more than one fertile queen being found in a hive. You are evidently in error in deciding that it is opposed to the theory of our authors. Vogel says: "It is nothing uncommon for two fruitful queens to be allowed to live together," "The exceptions prove the rule." A queen more than 2 years of age is quite frequently assisted by her royal daughter.—ED.]

DeKalb Junction, N. Y., May 17, 1879.

I finished setting out the bees April 28, rather earlier in the season than common. I found one starved and one queenless, and in about 10 days after all were out one deserted. This is my loss up to date, out of 121 colonies that I put into winter quarters Nov. 14 and 15. I think I never saw so fine a lot of bees at this season of the year.

IRA BARBER.

Mt. Clemens, Mich, March 5, 1879.

I unearthed the bees in Davis apiary April 22 and found 31 colonies living and 22 dead. I think they used considerable honey. This lot of bees were buried without ventilation. A portion of this pit was protected by a building on the west which I think was a damage, as the ground was more damp than it was where it lay out in the open air. I think that the pit should be in the open air, and the bees buried in a good depth. Fruit trees are in full bloom now. If the weather continues fine the bees will likely store considerable honey from the present bloom. WM. P. EVRITT.

Correspondence.

For the American Bee Journal.

Management During June.

G. M. DOOLITTLE.

Apple trees bloom with us from May 25th to June 1st, and as there is no danger of robbers during its bloom, we take this opportunity to get all drone comb out of the hives so as not to raise a quantity of useless consumers. What drones we do raise we prefer to raise from a choice Italian queen, and not from our whole yard promiscuously. The saving of honey, by doing away with as many drones as possible, makes quite an item in cash to the apiarist. So, to make a sure thing that the bees do not build drone comb again in place of that which we cut out, we fit a piece of worker comb in place of the drone. After apple blossoms there is with us a scarcity of honey till clover blooms, which is usually about the 12th to the 15th of this month, when, if the bees get honey from it, we put on boxes to all that are strong enough to work in them. Remove the packing at the sides, and put in one tier of side boxes and those on top, leaving the other tier at the sides until the bees are well at work in the first tier, when we push them back and place the empty boxes between them and the brood-chamber so as to incite them to greater activity.

If you do not wish to unite the weak colonies as stated last month build them up as fast as possible to strong colonies by spreading the brood, or giving them brood from the stronger colonies. When all are strong, put boxes on all of them. We neglected to say while speaking of apple blossoms, that then is the time we take to get our white comb for starters. Remove a frame from all the strongest colonies (if it contains brood give it to weaker colonies), and insert an empty one in the center of the brood-nest. Go to these colonies every four days, and cut all the comb built till the bloom is over, and if the weather has been favorable, you will have a nice stock of splendid comb for starters. You will also get some white comb that is nice for starters while cutting out drone comb.

About June 20th swarming commences in this locality, and as bssswood is our main honey crop, opening from July 10th to the 15th, swarms issuing June 20th are early enough to take advantage of basswood bloom. In fact, they are a little too early, as such swarms frequently fill their hives and a set of boxes partly full, and then swarm in the height of basswood, thus cutting short the yield of honey from them. If we could have it just as we wished, we would have all our swarms come from June 27th to July 3d; but as we cannot, we keep them back as late as possible by taking brood from the strongest. To try to prevent all increase, whatever we believe, only results in failure as a general rule, so we will give three modes of swarming, which we consider the best, always bearing in mind, that all swarming should be done up 10 days before the main honey harvest commences. If we wished to double our bees, we should let all our swarms issue naturally, and hive them on the old stand, setting the old colony on a new stand a rod or two away. We have all our queens' wings clipped, and let the swarm hive themselves by returning, we changing hives on the old stand while they are out. Of course it is understood that we find the queen as she is out running around trying to go with the swarm, and put her in a wire cloth cage, and when the swarm returns let her go in with them. If you have empty combs to give the new swarm, put on boxes at once, otherwise wait till the hive is two-thirds full of comb. Mark the date of swarming on the old hive and 8 days thereafter the young queen should be hatched, if they swarmed according to rule,—*i. e.*, with the sealing of the first queen-cell. Open the hive and look for the cell that has hatched, and if you find one from which a queen has emerged, cut off all the rest (if the bees have not already torn them down), otherwise cut off all but the oldest and best looking ones, and afterswarming will be prevented as a general rule, although with us the bees sometimes swarm with the queen when she goes out to be fertilized. Some say cut out cells all but one on the third or fourth day after swarming, but if you do, the Italians will frequently raise more queens from the larvæ in the hive, and swarm the second and third third time. As soon as the young queen in the old hive gets to laying, the bees will go for the boxes with a will, and will generally gather more honey than the new swarm. If we wished as little increase as possible and still wished natural swarms we should hive the new swarm (leaving the parent colony on its old stand) and carry them to the stand of a populous colony which had previously been removed to a new stand. Thus you will see that you draw all the working force from the colony moved to a new stand into your new colony which makes an exceedingly strong colony, and should have the boxes put on immediately. The colony removed loses nearly as many bees as if it had swarmed, and will rarely attempt to swarm after such removal. The parent colony should have the queen-cells cut as before directed. Another plan, and the one we at present prefer, especially as we have plenty of empty comb, is to make one new colony from two old ones; namely, about 12 days before basswood (or your honey harvest, whatever it may be) go to No. 1 and shake all the bees and queen from their combs into a hive filled with empty combs placed where the old one stood, and put the boxes from the old hive on the colony thus made. Thus you have a strong stock containing all the bees and queen from a populous colony, a hive full of comb and the part-filed boxes from No. 1, they being ready to take advantage of the honey harvest when it comes. Now take the combs of brood taken from No. 1 to No. 2 and set them on No. 2 stand, having previously moved No. 2 to a new stand a rod or two away. Go to your nucleus (all bee-keepers should have nuclei with laying queens on hand at this season of the year. If you don't know how to make a nucleus any of our bee books will tell you) and get the comb the queen is on and take it, bees and all, and shake them off in front of the hive on No. 2 stand, and let them run in. Put on boxes and the work is done. Thus you have a colony composed of a full hive of combs and brood, a good young queen and workers to protect her, and all the working force from No. 2 which make a big, strong stock, and as far as my experience goes, one that will produce a large quantity of honey. No. 2 has a hive of combs and brood, their old queen and boxes partly filled, but have lost their working force. In from 8 to 12 days they are stocked up with workers again and are also in fine shape for the harvest. We have described this plan at length as we consider it the best plan of artificial swarming extant.

Borodino, N. Y., May, 1879.

For the American Bee Journal.

Wintering Bees in Kentucky.

R. M. ARGO.

Until the past winter I thought I understood every principle necessary to the successful wintering of bees, and that I could safely winter any number of colonies in any sort of winter, in this latitude, on their summer stands. My experience the past fifteen years had convinced me of this, but the past winter has convinced me to the contrary, and left the subject of safe wintering still an open question.

To be brief, I will just give my experience during the past winter. I had 82 colonies last October; some of the strongest, I let alone. The rest I protected in different ways, but left all on their summer stands. I would here say that we only have about one such winter in twenty-five years. Consequently it was unlooked for; else I might have protected them and lessened the loss. The result of this experiment was that down to the first week in March 19 colonies—over 20 per cent.—was gone.

Some left plenty of honey; some with plenty to have wintered on, but out of their reach; some had starved, but all had left large clusters of bees, and one of the unprotected colonies had left honey enough to winter two colonies. All had the winter passages, and the loss was equally among the protected and the unprotected. None had upward ventilation except absorbent ventilations through quilts and chaff.

Last October I prepared 4 colonies for winter for a neighbor in the old Quinby hive, containing 16 frames and, partition boards. These four colonies stood about 20 inches from the ground on the north side of a steep hill, exposed to the cold north wind. I left them about 25 lbs. of honey; cut winter passages, and adjusted the top and honey board so as to fasten up all upward ventilation. On April 21, I went up to transfer them to new hives for him. I expected to find them very weak, if not gone, but to my no little surprise I found each of them very strong in bees and honey, and with live drones, the first I had seen this spring. They had consumed very little honey, and three of them had managed some way to get ventilation on the top. Two of the colonies had made an entrance at the top. These old hives were 20 in. square, 12½ in. deep, and had good inch bottoms and partition boards, though setting at a very cold, exposed place for winter. They were under a shed but had very little protection against the winds. I have wintered 4 colonies in a box 5 feet square and 2 feet high, for eight years, with entire success. I think if a stand was put in a dry-goods box it would winter safely.

The long protracted winter was doubtless the cause of the loss, in not giving the bees a chance to fly out for seven weeks at a stretch here, and only one or two days in nine weeks.

Lowell, Ky., May 6, 1879.

For the American Bee Journal.

Honey as a Staple Article

BY JAMES HEDDON.

Every bee-keeper who has had any experience with the marketing of a crop of honey, knows full well, that notwithstanding some dealers and producers have worked hard to make the article somewhat staple and uniform in price, no such thing has been done. I conceive that if honey had no flavor, and as little color as possible, that it would then stand upon the merits of its sweetening powers, and would at once have a regular demand at a fixed price, the same as sugar, syrups, etc.

Now, from the experience I have had with clear honey, I believe that it would be a very simple job to erect a refinery that would quickly, surely and cheaply remove the flavor and bring nectar to any desired consistency of flavorless honey. Then the business of bee-keeping would largely turn to producing nectar (not honey) for the refineries to make into honey syrup. We should then for the first time see bee-culture on a solid and respectable basis. An apiary would be as salable as a store or a mill. Capital would look with favor upon it.

How is it now? If you find one who desires to "keep bees," he has probably caught his enthusiasm from some modern bee book, patent hive vender, or supply dealer, nearly all of whom make it a business to talk up the smooth side of the business, somewhat stretched, and in order to make the unknowing heart beat faster, they say "hardly any capital required," and the consequence is that almost all who try honey producing for a business fail, and those who do not fail, soon see how much better it would have been to have first gathered their knowledge and then started with a capital equal to that knowledge and becoming to a man of some enterprise, and to start just where some one of years of experience leaves off.

I find it very easy to sell a few colonies of bees to almost any one who has a proper mixture of enthusiasm and money. It is just about as easy to foretell the future of that apiary. It is sometimes hard work to dissuade poor and needy men from paying out their last little surplus for one or two colonies of my bees. Last winter was another of the fatal ones in Southern Michigan, and just now I fail to put my mind upon a single person who has not been a loser who has tried bee-keeping in this county within two years. I have taken pains to inquire into the exact condition of colonies that have lived and died about this county. I am still getting at the facts, and in a future number will give them. I think about three-fourths are dead, and many more are weak. It is a beautiful morning, and the bees make merry music, and of course we hope to get a good harvest.

Dowagiac, Mich., May 12, 1879.

For the American Bee Journal.

Hints on Robber Bees.

J. O. SHEARMAN.

We read in the books: "to stop robbing, close up the entrance, so that only one bee can pass at a time"; rather a close rule for all colonies, as they can not clean out very well through a small passage, and large colonies will not get air enough. When they are trying to rob, lean a board over the entrance; if that is not sufficient, cover the hive up, till the bees stop flying and examine, if they have a queen and enough bees to hold their own, and if the robbers have not started a "rum" on them, proportion the size of the entrance to the colony, and they *may* hold out. But for extreme cases, when bees come tumbling out of the hive, daubed with honey enough so the outsiders will lick them off, then look out. During the warmest day in March, while going around to see how the bees were flying, I noticed they had commenced robbing by crowding in, by force of numbers, and begun to carry off honey from 4 colonies. I covered them up with straw.

I used the straw because it was nearest at hand. I have sometimes used a blanket or sheet. They did not make much headway robbing through the straw that day, and near night I went for No. 24 and found a laying queen, brood, and plenty of bees—in fact it was a strong colony. So I put in a wire doorway (same as for moving) and kept them in all next day. As there was not daylight enough to examine the others, in the evening I dug a hole by the side of two others and put each one in, let them stand till morning, then covered with boards and earth, and they are there yet. Next morning the robbers came but were disappointed. When fine weather comes I will set them out, watching my opportunity. The fourth one was smaller than the others, but healthier and in fewer frames, thus defending themselves better. Early next morning I looked for their queen, found them in good order; they took care of themselves with a small entrance and a board leaning over it.

New Richmond, Mich., March 20, 1879.

For the American Bee Journal.

Natural and Abnormal Swarming.

CHAS. DADANT.

To migrate or leave home, in search of a better abode, is among the necessary faculties of nearly all animals. Man is not an exception to this law. This migration is always provoked, either consciously or unconsciously, by some uneasiness, such as the lack of the necessaries of life, the narrowness of the home, or by some other defective circumstances.

The human race shows, in past history, and even now, constant examples of migration. When these migrations include a great number of individuals they are called swarms. The bees, the ants, the locusts are said to swarm. These migrations are the result of the same law which governs the changes of residence of all the other kinds of animals, bees not excepted. I know that this assertion is not in accordance with the notions generally accepted by bee-keepers, or, at least, that my idea never has been taught as absolutely as I suggest it; most of the writers having taught that swarming is the process by which bees increase the number of colonies, and some authors having even gone so far as to compare swarms to the fruit or seeds of a tree; but I think that I can sustain and prove the assertion, that all swarming of bees is the result of uneasiness.

No kind of animals shows more love of home than bees, yet every old bee-keeper has seen bees leaving their hives in early spring, long before the swarming time. For instance, when bees have wintered in the cellar, as soon as the hives are put on their summer stands, it happens that some colonies desert their hives and go in quest of a new home.

I have noticed that such is the case when their stay in the cellar during the last days or weeks has been attended with uneasiness, either from a desire of voiding their fæces or from anxiety to go out—anxiety aroused by a too high temperature of the cellar. The bees, as soon as at liberty to fly, hasten to leave a habitation where they have suffered.

When a colony has been sick with dysentery and has stained its combs, the bees are apt to abandon the hive in quest of a cleaner abode. If, after cleaning the hive and giving them dry combs, we return the colony to the same hive, they will usually remain.

Now and then, at a time when there is no indication of swarming, we notice that a colony has departed from its hive, leaving honey and brood in every stage of growth in clean combs. If we look in the empty combs, we will notice that there is no pollen. The bees, being unable to raise brood successfully without pollen, have swarmed, rather than witness their brood perish. Generally, late natural swarms of the preceding year are those to which such accidents happen, because they were unable to provide a sufficiency of pollen for the spring. Such swarms, unfortunately, are not very rare. By giving them a good comb with pollen, we can return them to their hives, where they will stay, the causes of their departure having disappeared. These unseasonable swarms are called, in France, "swarms of Easter," on account of the time in which they happen.

Nobody will contradict that all these kinds of migration are the result of the uneasiness of the bees, which have thus obeyed the great law of nature impressed on every race of animals, to hunt for another abode in view of finding more happiness.

Some bee-keepers will object, that while these swarmings are the result of the miserable circumstances in which the bees were placed, it does not follow that what is known as natural swarming is the result of uneasiness; that natural swarming not only perpetuates, but increases the number of colonies. I beg here to say, that another undeniable law of nature is that the faculty of reproduction of all living beings, plants or animals, is in proportion to the surroundings in which each kind is compelled to live.

If a race is in the best circumstances, the individuals of which it is composed will live a long life, therefore, as the race has very little chance of disappearing from the earth, its prolificness decreases. If, on the contrary, a race is compelled to live in straitened circumstances, as it incurs the risk of ceasing to exist, its fecundity increases.

A young vigorous tree gives very few fruits; a decaying one is covered with flowers in spring. A flowering plant, too, well cared for, doubles. The organs of reproduction, stamens and pistils, disappear and are replaced by petals. A too fat animal is not so apt to reproduce its species as a lean one. Some rich married couples, too well fed, cannot have the joy of being blessed with children, while their poor neighbors have more children than they are able to nurse. A colony of bees, hived in a narrow box, incurs the risk of being unable to store honey for winter, it swarms; while a colony placed in a capacious hive, having no such risk, remains for years in the same abode without swarming. A too narrow apartment is the main cause of natural swarming. Too much heat is another cause. We can, therefore, in a great degree prevent natural swarming by furnishing our colonies with large hives, and providing them with an abundance of air and a protection against the too warm rays of the sun. Of course the large hive itself will not always be sufficient to prevent natural swarming unless we enlarge the room in time—I mean before the colony, having filled all the combs, begins to suffer from lack of room. I know that there are numerous exceptions to the law that I have written above; for although we have tried to prevent altogether the natural swarming of our bees, never have we been able to obtain less than two or three swarms every year in our home apiary, numbering about 100 colonies.

I think that I can trace the causes of these uncalled for swarms. The extreme longevity of the queen is about 5 years, or 60 months. It follows that in 100 colonies the death of 2 of the 100 queens will occur every 6 weeks. If we add that spring is the season of fatigue for the queen, as well as for the bees, as she works, depositing eggs, more in the spring than in any other season, we will understand how it is that, even with all young queens not older than 3 years, 2 or 3 of our colonies lose their queens during the honey season. Besides, it happens that we sometimes maim or kill a queen in visiting our hives.

Of course, after these deaths the bees hasten to make queen-cells on several combs. But as soon as a queen has emerged from her cell, the bees, that have built and nursed the other queen-cells, are not ready to destroy them—if the honey crop is abundant in the fields—or to let the newly-hatched queen slay the others. The colony is then in the same condition as a colony which has swarmed and desires to send an after-swarm; the more so, because it is in full force. This is the most frequent cause of swarming in roomy hives.

But some bee-keepers know that in some seasons bees swarm even with their hives half full of combs, and that, too, while their queens have remained alive and in good health. I have noticed such swarmings, which occurred during seasons of scarcity of honey. The brood was very abundant, filling all the combs; the bees seemed unable to find more honey than was necessary to keep the hatching bees and the brood alive; they had none of it to put in store; they were crowded in the brood-chamber, and had nothing to do in the upper story. Under such circumstances, who would dare to affirm that the bees were not tired of inhabiting a locality where they had no chance of surplus for winter; or that they were able to provide enough of pollen, or of honey, for the brood?

I have studied this question of natural swarming very closely. I have experimented with all the means indicated by the authors in bee-culture, to prevent natural swarming. I have partially succeeded by dividing my colonies; but as a colony and its swarm do not gather as much honey as if it had remained whole, I have abandoned this method. I have tried the perforated sheet-iron, contrived by Abbate Collin, of France, to prevent the queen from following the swarm. I have tried, also, the queen-yard of Quinby, from which the queen, with clipped wings, could not fly out. In both of these experiments I have obtained the same result: the killing of the queens by their own bees. Then the colonies have swarmed with virgin queens, as soon as these newly hatched queens were able to fly; and the crop of honey suffered during all these preparations, on account of the dissatisfaction of the bees. Now, I have every confidence in the method that I pursue, for I have tried it for a long time. For 10 years, with one exception, the number of natural swarms did not exceed 3 per hundred in our home apiary. To obtain this desirable result we use Quinby hives, enlarged to 10 or 11 frames before the swarming season, and covered with a second story holding 10 small frames, furnished with drone comb or comb foundation. With such hives, and, if necessary, a third and even a fourth story, we control as much as possible natural swarming, directing the full strength of our strongest colonies to the production of honey, and using all the colonies too weak to procure honey, in rearing bees to make artificial swarms.

From the foregoing it will be seen that our management of bees is quite different from the method described by our successful friend Doolittle, who gives preference to small hives furnished with small frames, while we prefer the large frames in the largest hives. Mr. Doolittle works mostly for comb honey, we for extracted; hence the difference in our management. Yet, as I cannot accept without protest his condemnation of the large hives, I will try to give my views on this question in a subsequent article.

But before entering on this new field, I will conclude with this *resume:* Swarming is always the result of some want, or of some uneasiness of the bees, therefore, a colony of bees will not swarm in the following conditions :

1st. As long as its queen is alive and healthy.

2d. If its combs are dry and clean.

3d. If it is always furnished with sufficient room for the queen to lay and for the bees to store honey.

4th. If there is always in the hive a provision of pollen and honey sufficient for the needs of the brood and of the hatching bees.

5th. If the heat of the inside of the hive is not sufficient to compel the bees to remain idle, inside or outside.

Hamilton, Ill., February, 1879.

For the American Bee Journal.

Plea for Pure Honey.

LEE EMERICK.

That time has arrived when it becomes necessary that all honey producers, who desire to make their business profitable in a pecuniary point of view, unite in their efforts to suppress the adulteration of honey, both comb and extracted, and their first effort should be made in their own apiaries. To avoid all that has semblance of fraud or adulteration, in feeding colonies in spring or at any other time, would it not be better to feed pure honey, though it is worth more than sugar or glucose. It certainly would prevent the accusation of adulteration by the purchaser of the honey.

Only a few days ago the writer of this was told by a neighbor of Mr. D., who is one of the largest bee-keepers in the country, "that Mr. D.'s honey was not pure, that it all turned to sugar." The writer suggested that pure honey often candied or granulated. But said he, "I have often seen Mr. D. feeding his bees, and he fed them sugar; and I don't want any of his honey." Now if he had only known that Mr. D. had used artificial comb, would he not have been more vehement in his denunciations?

And on the account of the accusations that can and will be made against comb-foundation, it is an unsolved question whether it will prove a blessing or a curse to the honey producer. The present price of honey in our commercial markets proves that about all the honey that can be sold at a remunerative price is being produced, and if the production be increased without a corresponding increase in the demand, the inevitable result will be lower prices, and the abandonment of bee-keeping by many, and does not the use of comb-foundation increase the production, and at the same time lessen the demand. Will some other than a supply vender answer?

The AMERICAN BEE JOURNAL, by its fearless exposure of fraud, its efforts to prevent adulteration, and its untiring work to advance apiarian science, merits the thanks and patronage of the bee-keeping fraternity.

Harrisonville, Mo.

For the American Bee Journal.

A Voice from Northern Michigan.

L. C. WHITING.

Bees have wintered very poorly. The average loss where they had no winter protection has been half. Circumstances prevented me from packing as I intended; they were left where they stood during the summer. Sixty colonies had quilts over the frames, and the caps filled with straw, so arranged as to give slight ventilation through the straw; 48 of these came through all right; a few had the dysentery, apparently caused by having too much ventilation; 35 colonies that had honey boards over them, with no ventilation above, were all lost. A large portion of the 35 were in good condition up to and through the first thaw. They flew well and strong and had less dysentery than those with upward ventilation. I account for the great loss in this lot by the frost melting, making the combs very damp, the water closing up the entrance with dead bees and ice, so that they had no air. A few packed in the same way where the covers were loose enough to let in air came out all right. A large portion of this loss of 35 had sealed brood and other evidence of prosperity. All had plenty of honey.

One row of 30 colonies with straw in the caps faced the south, and not one was lost. The others faced east and west, in about equal proportions; loss about equal, but those facing the west were found in the best condition. In examining the colonies in the fall, to see if all had their due share of honey, some unsealed honey was found, and was placed in the strongest colonies. All the colonies in which this uncapped honey was placed, suffered with dysentery.

All this loss in my case could have been prevented had I packed them as I intended, and a very large portion of it if I had raised every hive on the first thaw so as to let the frost melt out without leaving the bees damp, to be frozen up with the first cold weather. Bees properly packed or in cellars have wintered well.

I want to say to those who have not bought smokers to get the largest sized smokers (hot or cold blast is of no account); I speak of this because I have had experience with both, and find it a great annoyance to have the smoke give out when it is wanted most. I like the Bingham the best, but any kind will do if large enough.

There is one fixture that I want, and that is something that will enable me to turn the Langstroth frame bottom side up, so that when clover and basswood cease to yield honey, the frames can be turned over, and if done a little before the honey ceases to flow, the bees will uncap the honey in these frames and carry it up into the boxes, and in place of honey the frames will be filled with brood for the fall harvest, and the honey be in good marketable shape in the boxes.

My experience has been that the dollar queens, if reared from imported mothers, are as likely to be good as any. By waiting for them to be tested the season is past before getting them. Some of the best queens I ever had were small. I prefer to buy more queens and weed out the poor ones than to pay a high price and have to exchange. All the old queen breeders know the importance of rearing queens from good stock, and if so reared you cannot test them without placing them in a good colony of bees. I have paid as high as $8.00 for a queen, and the same season bought a better one for $1.00.

East Saginaw, Mich., March 13, 1879.

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For the American Bee Journal.

Wintering Bees, &c.

R. S. BECKTELL.

The past winter has been a very severe one on bees—nearly everywhere we hear of losses. I believe fully one-half of the bees about here are dead; they all died of dysentery, which was in nine cases out of ten caused by confinement, in severe cold weather, to the hives for a long time on combs of honey that were more or less sour.

Last season was wet and cool in many places, and the result was our clover honey soured in the hives. The old colonies that cast swarms in June are the ones that suffered most; they swarmed and left unsealed honey which soured. I have seen honey sour even in good, strong colonies. When it rains about every other day in June, you must expect poor honey; it will be so thin when it is first gathered that it never will be as good and thick as it is in a favorable season. My advice to all, is to keep all colonies strong; don't divide your bees to death when the honey is liable to sour and your bees die the next winter and spring. As we do not want any more sour honey in the market, please do not extract your honey till it is all capped over, and if the yield of honey is not too great, so you have room in the hive, it would be better to leave the honey in the hive for a week or two after it is capped over, for it gets thicker and better after it is capped over.

I never extracted any honey till it was fully two-thirds capped over, and yet, about three years ago, I had some clover honey that was "more or less sour." C. O. Perrine would not believe it was clover honey, but I know it was for there was nothing else for the bees to work on. I did not extract any of the clover honey that year (1876) till I saw the basswood was a failure, then I extracted it from the 17th to the 20th of July. I do not claim that poor honey is the cause of the loss of all our bees; but it is the main cause. Weak colonies cannot stand long cold winters as well as strong ones. The season was too cold in September last, so the bees did not breed good, and then it was too warm in October and November, so the bees died off till they were only about half as strong as they should have been on the first of December. I believe some think that if the old bees do not die off in the fall they will before spring, but such has not been my experience. Old bees will live a long time in cold weather, and they help to keep up the necessary temperature in the hive. I have succeeded best in wintering bees on 8 combs that have fully 30 lbs. of honey in them, and the upper story packed with straw, and left on the summer stands unprotected in any other way, except that they were nearly covered up for a while in December and January. I left two colonies without any quilt, straw, or honey-board in the upper story, and yet they wintered, and are now in fair condition. They were fair colonies last fall, and had the hives full of as good honey as a poor season could produce. I had three colonies smothered from want of upward ventilation; ice froze in the entrances.

One great cause of mortality among bees is too much pollen; it stimulates the bees to breeding in winter or early spring, and if there is much very cold weather afterwards the bees and brood will be injured or entirely destroyed. Especially is pollen detrimental to the bees if much of it is left unsealed in the fall, as is sometimes the case, when there is a scarcity of honey in September. I do not find that bees die so much from eating thin fall honey as from eating sour clover honey. I lost just one third of my bees; and those I shipped off in November and December nearly all died, because "they were disturbed to death." Do not buy or sell bees after September 1st.

New Buffalo, Mich., May 6, 1879.

For the American Bee Journal.

My Recipe for Bee Food, &c.

W. M'CRACKEN.

Analysis has shown the principal elements of honey to be water, sugar, vegetable acid, mucilage, coloring, flavor, and a little extractive or volatile matter; the minute principals, gum, resin and bitter, and in some instances a little piperine. I would suggest that apiarists raise the money necessary to make a perfect analysis, and place the work in the hands of Prof. A. J. Cook, who will give an honest specification, as he is an interested party. He should take three or four grades of honey—basswood, clover and buckwheat—all of first quality, mix them thoroughly together, and from the compound make his analysis, and give a formula for artificially making 100 lbs. Individually, a fortune might be made from establishing a correct system of feeding bees with proper food. I have intended to do this, but from want of money have been obliged to abandon it. Here is my recipe for bee food, as near as I could determine without specific analyses:

Take 4 quarts of strained mucilage, made from the young green pods of okra or slippery elm bark; it should be made in a tin or granite ware vessel, as iron will blacken it; to this add 12 lbs. of clarified sugar, slowly bring it to a boil in water or a sand-bath, then set it off the fire; to 1 pint of water stir in 1 ounce of citric acid, until dissolved; stir this in the syrup thoroughly, then put in an ounce of alcohol, to which 4 drops oil of sassafras, 10 drops oil of lemon, and 15 drops extract of vanilla have been added; stir in well, then add 3 lbs. of natural honey and the white of 1 egg beaten to a froth; stir it well; when it has cooled down to a natural temperature, stir in pure cold rain water until the proper consistency is obtained.

My observations have led me to believe that bees secrete more wax from some kinds of food than from others, and when they have no comb to make or repair, the wax is shed while on the wing, and that dropped from their bodies in the hive is swept out, or picked up and carried out. Wax is an excrement, one of the results of digestion. Honey which crystallizes exhibits a want of acid and water; that which ferments is lacking in sugar and mucilage; there is rarely ever an excess of acid in natural honey; acid prevents crystallization and evaporation.

To catch an issuing or flying swarm, I set up a rod about 12 feet long, upon the top of which is a hollow globe mirror 4 inches in diameter; underneath the globe is a large sponge saturated with water, sweetened with honey flavored with extract of lemon and ottar of roses; the rod has a smooth socket-joint under the sponge, so when the bees are laid on a portable table, the rod is drawn away and the bees covered with the transferring box, connected by a tube to the hive intended to retain them.

Houston, Texas, Feb. 16, 1879.

For the American Bee Journal.

Action of Honey on Glass.

W. O. CARPENTER.

In reply to Mr. W. R. Edwards' remarks, that the honey he supplied one of his customers decomposed glass jars into which it was placed, I beg to suggest the only two causes that could have occasioned it—being an old glass-maker I know something of the nature of the material. First, nearly, if not quite all, the glass-wares in this country are blown in a mould, the metal is gathered at the end of a pipe, placed inside of the mould while red-hot, and blown until it fills the mould; the consequence is, the metal being sometimes unequally blown, one part of the article becomes thinner than another, and of course very easily broken through; you may observe this frequently in your broken lamp glasses, one part being perhaps ⅛ of an inch thick, and another as thin as paper; the same thing occurs in your bottles, the part round the shoulder often breaks off; all arising from unequal gathering. The second cause may possibly arise from an excess of glucose being in the honey, the glucose having calcium or lime with free sulphuric acid; this combination would produce fluoric acid which has a strong affinity for glass, and would soon corrode it, but then the effects would be visible on the surface of the glass, and Mr. Edwards states "the appearance of the glass was not changed." This brings me back to my first idea that the glass vessel was of uneven thickness and admitting of a knife being pushed through it.

When glass is made with an excess of alkali, it sometimes what is technically called "sweats," that is an efflorescence or escape of the alkali is discovered on its surface; and after a time the glass becomes eaten away into small pin holes; you will see this in old church and cathedrel windows; but it is the work of time, and could not occur in the glass jars Mr. Edwards speaks of.

Lawrence, Kan.

For the American Bee Journal.

The Alarming Diseases of Bees.

MOOSH AMIEL.

The reports from a large portion of Michigan are most unfavorable and discouraging; three-fourths, if not more, of the bees in large portions of the State are dead. This State is not the only one where the same disease has caused their destruction, neither is this the first season that large portions of the United States have been thus afflicted. Foul-brood has at times visited portions of Europe and the United States, and was really an alarming disease. Those who knew it, feared it exceedingly; as evidence of this our lamented friend, the late Samuel Wagner, had one colony attacked, and on visiting his friend at Baltimore, refused to visit his (Colvin's) apiary the next day for fear there might be something about his person or clothing that might, by the remotest possibility, convey the disease; those who had a colony with the foul-brood washed their hands and tools after handling it, before approaching a healthy colony. If reports that we dare not dispute are true, simple remedies have been found to eradicate it and save the bees, hive and combs.

Now in comparison with the dysentery, the foul-brood is not *one hundredth part as* destructive, because comparatively but few apiaries seem affected. At the National Convention at Cleveland, O., but some five or six reported its presence in their apiaries; now if a report from but one town in many portions of Michigan were made, *ten times that number would report dysentery!*

Some years since when this same disease swept over a large portion of the Northern States, in many counties but occasionally a colony or an apiary escaped. At our State Conventions many thought it was caused by extreme cold and long winters; if that were the cause, in Vermont, Maine, Northern Russia, Siberia and many other colder countries than Michigan, bees could not be kept without annual importations! Again, if it was caused by long cold winters, why have many lost their entire apiaries that were *properly housed in special depositaries*, with the mercury never below 30° or above 44°? Some of these colonies were attacked before the 15th of January, and perhaps all dead before the 1st of March!

Again, the cider-mills have been charged with having been the cause; but thousands of colonies that had dysentery were quite out of the reach of these mills!

It has been confidently asserted that it was because the fall season was wet and cold, and the honey too thin to be capped over, but last fall, and for several years preceding the autumn was dry and long, from the complete close of the honey gathering till December!

I think that few, if any, will assert that old bees are the only ones affected; that an old bee will not live eternally is more than probable; but it is doubtful whether young bees can endure more poison than old ones!

But what is the cause and the preventive? Is not the cause of the disease, what is called honey-dew? Many of our best informed apiarists are of that opinion. If that be so, what is the preventive?

Bees were attacked in this location by the 15th of January, perhaps before. About the 1st of March we had several as fine days as could be wished, and the bees flew, and they have had many such opportunities since, but still they are dying daily with dysentery and this with nothing but sealed honey, made in the early part of the season. The hives were cleaned about the 1st of March and the bees made as warm as possible.

I believe with Prof. Cook, that "dysentery is always caused either by poor food or by damp atmosphere in the hives," and "that good food and absorbents are the preventives"—I will add: if they are not too cold or too warm and are kept quiet. All of these have been provided a thousand times, except the good food, and still the bees have died!

The question is, "how are we to know if they have good food or not, until as Mr. Quinby says, we learn from a post-mortem examination." This is the very gist of the matter under consideration. Many know how warm, how cool, how dry they should be, and what are good absorbents. Is any upward ventilation needed, or should it be permitted? A little lower ventilation, to let the carbonic acid gas flow out, is necessary, according to the late Prof. Kirtland.

But how are we to know in the fall if our bees have good food when it is almost, if not quite certain, that this poison, honey-dew, is gathered in *spring, summer and fall* and about as certain that it is sure death to bees? I know of no way to determine whether a colony has gathered honey-dew; others may. Sometimes we see them carrying it in; but many times it may be carried in without our knowledge.

Is it safe to extract all of the honey in the fall and substitute some known good food—pure candy as suggested by Mr. Langstroth, say candy made of sugar and flour as suggested by Mr. Wilkin, formerly of Cadiz, Ohio; or a properly made sugar syrup? Many have fed for a short time with the candies and some have tried sugar syrup to ward off dysentery, but with what success I have forgotten, if I ever knew. Mr. Bidwell, our late President, of South Haven, Mich., placed many colonies in vacant hot beds with apparent success, but since that time I have heard no more of it.

I have been a sufferer to the number of 80 colonies with dysentery and 140 with foul-brood, and would like to hear from others on these suggestions.

Wayne, Mich., April 14, 1879.

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For the American Bee Journal.

Bees in Albany Co., N. Y.

G. J. FLANSBURGH.

To show the mortality of the past winter and present spring up to date, I will give results of nine bee-keepers near here, the farthest being about 3 miles distant. They went into winter quarters with 148 colonies; their numbers varied from 2 to 60 each. Out of the 148, only 32 are living, and some of those are weak and in all probability will not survive the late cold spring.

The causes of this great mortality are obvious. In the first place bees ceased to breed here about the last of August; there being not enough fall flowers to encourage them to continue later. All through the fall months they were like hungry fowls. Honey could not be exposed with safety at any time. Thus many colonies went into winter quarters weak, and with bees too old to perpetuate until the breeding season. Following this unfavorable fall was a protracted cold winter; the bees being confined to their hives from December until near April and being obliged to eat on the borders of cold frosty honey, which thinned their forces, causing pressing necessity to discharge; the weather continuing cold and unfavorable for a purifying flight, and as a last resort those suffering most from want of animal heat or warmth, daubed up their combs and wetting one another, soon died.

The few that have survived thus far, are generally in a backward state. As the spring thus far has also been cold and unfavorable for breeding, many colonies that are weak do not breed sufficient to compete with the number of old bees dying off daily, and so losses are yet to be expected.

The apiary that I have charge of, went into winter quarters on their summer stands with 69 colonies; 12 died; the remainder, 57, I have reduced to 40 (one yet being weak) by uniting the weakest ones, on the first warm days of their flight. There are many colonies dead which could have been saved, if this method had been taken.

Bethlehem City, N. Y.

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For the American Bee Journal.

The White Sage—Large Yields, &c.

WM. MUTH-RASMUSSEN.

The engraving in December number for 1878, does not represent the white sage of California, but illustrates the plant called ball sage, or blue sage, or sometimes black sage in contradistinction to the white sage. The blue or ball sage blooms earlier than the white, the flowers are only one-half or one-third the size of those of the white, and of a bluish color, while those of the white sage are pure white. The flowers are similar in construction, but the stems and leaves, and general appearance of the two plants are entirely different. There are other varieties of sage here, which however are not frequent enough to come into consideration as honey resources.

It is claimed that the honey from the blue sage is clearer and thinner than that from the white. The blue sage is not as abundant as the white, but is beginning to spread out and take a foothold in places, where it formerly was very scarce.

In last February number, page 78, M. S. Baker states that one colony gave 1000 lbs. of extracted honey, besides 14 swarms. This is a mistake, unintentional probably from Mr. Baker's side, but gross enough to be corrected. Mr. Claussen, the owner of the bees, told me, at a recent visit to his apiary, that the 1000 lbs. were from the parent colony *and* the increase. Good enough even for California.

The bee-keepers here are agitating the question of putting their extracted honey in new cans and cases, knowing full well the objections to the coal-oil cans, formerly in use. A cubic can, made of 12x12 inch tin and holding about 80 lbs. seems to be preferred to either smaller or larger cans for the general trade, while some favor 25 gall. barrels, principally for exportation to Europe. Success to the AMERICAN BEE JOURNAL.

Los Angeles Co., Cal., March, 1879.

From the Journal of Agriculture.

Wintering Bees.

N. CAMERON.

A peculiarity of the honey bee from all the other insects is that they do not hibernate in a torpid condition. If they did, this vexed question of wintering would be removed from the field of discussion.

Of late years there has appeared a disease generally called dysentery, that destroys whole apiaries, and some seasons half or more of all the bees in the country. This disease and its cause have been discussed scientifically in the bee papers *pro* and *con* for years, and yet we are about as much in the dark as ever. Leading apiarists differ as to the cause and cure. The late M. Quinby ascribed it to the severe and cold winds, many others ascribe it to uncapped honey, and still others to unwholesome and sour honey. Hence we have the various remedies to meet these various conditions. Protection from the winds, extract in the fall all uncapped honey, also extract all unwholesome honey, and feed with sugar syrup, if there is not enough left to winter on. I might say in this connection that some think honey-dew is unhealthy to winter on. We will have an opportunity to test that this winter. What I know about the dysentery is that I had 80 colonies of bees one season in the fall, and the next spring had only 13. Before that I had been claiming that bees could be wintered with as much certainty as any other live stock, but that effectually took the wind out of my pretensions. My great hobby then was to put bees in a dark cellar that was frost-proof. Since I have wholly abandoned cellar wintering as being non-essential in this climate, and doubt whether it is in any. I know that a colony of bees so small that they will actually freeze, is practically worthless any way, provided they were kept through the winter by nursing, they would be apt to dwindle away in the spring.

While it is necessary to have empty comb or space below, it is absolutely essential to have honey directly above the cluster; especially in all latitudes where there is any liability to be protracted cold. But it has been my observation that there is a space secured sufficient for the cluster from the time that frost cuts off the honey supply till the weather gets so cold that it would be dangerous for the bees to remain between the combs full of honey. So that it is my belief that there is very little doctoring needed to winter bees. The essentials are good strong colonies and plenty of good wholesome honey directly over the cluster, and a protection against the cold winds would do no harm, also protect your hives from the sun's rays on all days that the thermometer is below 60°, otherwise, many times bees will be enticed out by the warming of the hives, when it is so cold that they can never return. The season that my bees suffered most from dysentery they were short of honey in the fall, and worked a great deal on decayed fruit and on grapes, and while it is our opinion that it is the juice of fruits or thin honey that has soured and is the cause of dysentery we are not positive but there are other things that cause it; it may be certain kinds of honey, and as far as we can see are all right. And while we have no specific for its cure or prevention it would do no harm to keep your bees as much as possible from the juice of fruits in the fall of the year, especially if their hives are not well filled with honey, for then they will be all the more eager to gather anything to store. But if bees are taken with this disease, we are satisfied that the most profitable plan for the bee-keeper would be to clear out every hive in which the disease is certainly established, destroying the bees, and saving the comb and honey for use next season.

Lawrence, Kan.

For the American Bee Journal.

How Bees Mark their Location.

F. P. TURNER.

I am a "bee-keeper" on a small scale and handle only Italians. I consider them better than the blacks, in every respect, for this latitude. I have for the last two years been very closely confined at book-keeping, and in order to pay more attention to my bees, placed the hives above my office—in the end of the store—and bored holes through the planks to let my bees go out. They have done finely and I have found them profitable. The latter part of the summer the house was white-washed and the workman did the work on the end of the house where my bees were, early in the morning, thinking he would be annoyed by the bees, if he waited until they had commenced working very rapidly, later in the day. He did not finish until late in the morning, and most of the bees were out at work. I noticed that they did not go in at the holes when they came back from work, but flew around in circles in front and seemed very much distressed. I found that the longer I waited the worse they behaved, until there were at least two swarms (in numbers) on the wing. I threw water on them and waited sometime, but it did no good, then I went to my office, and cut five blocks of thin wood, about 4 inches square, and painted them all different colors; put a ladder up to the end of the store and nailed a block about 3 inches above each hole and in less than ten minutes my bees had settled down to their regular stream of workers, going and coming with their loads of honey and pollen.

Now if any of the readers of the BEE JOURNAL are not convinced that a bee can see, and can mark the hive in which it belongs, let them try experiments and see how quickly they become confused and bewildered.

Tuscaloosa, Ala.

For the American Bee Journal.

Experience with a Large Hive

JOHN ROOKER.

I will give my father's plan of getting honey. He got the idea of a large hive from one that his father had a colony do well in for over 20 years. The hive was made of sections 7 or 8 inches high and 2½ feet square. From 5 to 7 of these sections were tiered up on each other; forming the hive, with a bottom made by nailing 2 boards together at a right angle, the angle being placed up making an entrance on both sides with inclined bottom board. Slides were used to contract them. The object was to cast out the worms and litter. Sticks were used in each section. This colony never swarmed and always came through the winter very strong, and gave from 100 to 200 lbs. surplus yearly, except 1 or 2 seasons, when it was not so rich. During this time my grandfather had 15 or 20 colonies in box hives but they all died. The rule for "robbing" this large colony was to take off the top sections down to the brood; cut out the honey, and put them back about June 1st.

From this, and our own experience, father and I tiered up some Langstroth hives to three-stories, getting the two lower stories full of nice worker combs (21 combs) never taking anything out of the stories, leaving room for the queen and plenty of room to hold 30 or 40 lbs. of honey as a reserve through all the honey drouths, always keeping the colony strong. We often find 15 or 16 frames of brood in these "four bushel hives."

If the third story is put on before the colony gets the swarming fever, and 2 or 3 frames of comb be raised from the second story just about the commencement of the harvest, it will be filled with a rush, and what is remarkably pleasant, all the new comb will be worker, or nearly so. They have no swarming fever, and never get it, having no use for drones, they build only worker comb. My father has a three-story colony that has been running 7 years; it has wintered out of doors, and always comes through strong, never showing any signs of dysentery. We examined it a few days ago; it is very strong. He cut out comb honey once last summer, putting back empty frames with two empty combs for starters; this they refilled in 5 days. We extracted at one time 130 lbs. from one of these big colonies; we are inclined to believe that 200 or 300 lbs. to the colony can be obtained annually by this system of management, with the least amount of trouble.

To prepare them for winter contract the entrance to one inch, and give just a little upward ventilation. Just as sure as the top ventilation is neglected they will suffer with dysentery, and perhaps die. The whole secret of success depends on getting the colony to breed up strong enough by the honey harvest to fill the whole three-stories. Once full there is no more trouble; no more fussing with division boards or breeding up in spring, or fussing with swarms.

Crates, prize boxes, frames, half-stories or sections can be used in the third story, and instead of the bees being reluctant about starting in the third story, they take to it like "young ducks to water." Having no swarming fever and never getting it, they readily go up and keep at work. No stopping to prepare for swarming, your bees idle in the very best honey harvest. The queen always having plenty of room below, never enters the honey receptacles or third story, and there is seldom any pollen in the surplus.

We have not tested this system as extensively as we intend to, but have been experimenting with it for the past

7 years. Father has 15 colonies, but only last year he decided to adopt this system altogether.

Mr. Thos. Wildman spoke of a large hive giving 400 lbs. Mr. Quinby favored a large hive, and Mr. Langstroth used large hives. Onr bees wintered in the cellar have come through in splendid condition.

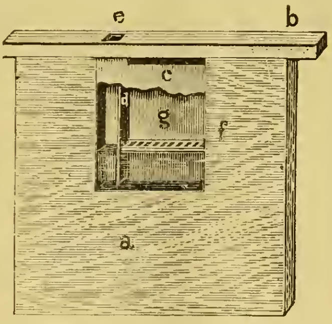
Strawtown, Ind., April 3, 1879.

For the American Bee Journal.

Division-Board Feeder.

PROF. A. J. COOK.

The requisites of a good feeder are: Cheapness, a form to admit quick feeding, to permit no loss of heat, and so arranged that we can feed without in any way disturbing the bees. The feeder (see engraving) which I have used with the best satisfaction, is a modified division-board, the top-bar of which (*b*) is two inches wide. In the cut the lower part of the face of the can is removed to show float, etc. From the upper central portion, beneath the top-bar, a rectangular piece the size of an oyster-can is replaced with an oyster-can (*g*), after the top of the latter has been removed. A vertical piece of wood (*d*) is fitted into the can so as to separate a space about one inch square, on one side from the balance of the chamber. This piece does not reach quite to the bottom of the can, there being a one-eighth inch space beneath. In the top-bar there is an opening (*e*) just above the smaller space below. In the larger space is a wooden float (*f*) full of holes. On one side, opposite the larger chamber of the can, a half-inch piece of the top (*c*) is cut off, so that the bees can pass between the can and top-bar on to the float, where they can sip the feed. The feed is turned into the hole in the top-bar (*e*), and without touching a bee, passes down under the vertical strip (*d*) and raises the float (*f*). The can may be tacked to the board at the ends near the top. Two or three tacks through the can into the vertical piece (*d*) will hold the latter firmly in place; or the top-bar may press on the vertical piece so that it cannot move. Crowding a narrow piece of woolen cloth between the can and board, and nailing a similar strip around the beveled edge of the division-board makes all snug. One of our students suggests the name "Perfection," for this feeder. The feeder is placed at the end of the brood-chamber and the top-bar covered by the quilt. To feed, we have only to fold the quilt over, when with a tea-pot we pour the feed into the hole in the top-bar. If a honey board is used, there must be a hole in this just above the hole in the division-board feeder. In either case, no bees can escape, the heat is confined, and our division-board feeder is but little more expensive than a division-board alone.



The best time to feed is just at nightfall. In this case the feed will be carried away before the next day, and the danger to weak colonies from robbing is not so great.

In feeding during the cold days of April, all should be close above the bees to economize the heat. In all feeding, care is requisite that we may not spill the feed about the apiary, as this may, and very generally will, induce robbing.

Lansing, Mich., April, 1879.

For the American Bee Journal.

Apiculture in Florida, &c.

R. H. M'INTYRE.

It is with much pleasure as well as profit that I read the JOURNAL every month, and have ever since its first publication. I made the acquaintance of its late much lamented editor, Mr. Samuel Wagner, in 1864, when I had charge of a large apiary belonging to the government hospital for insane at Washington. Bee culture lost with him one of its most able and talented advocates, and society a pure-minded, genial gentleman. I am glad to say that I think the JOURNAL has ably kept its place as the leading bee publication of America, and I doubt if it has a superior in the world.

We know nothing of the troubles of wintering here. There is no month in the year that bees do not gather both honey and pollen. I have reared Italian queens, had them become fertilized and lay, every month since last June. My bees had more honey in their hives on March 1st than they had November 1st. We do not have as great yields of honey here, in so short a space of time, as at the north, where linden and white clover abound, but have it more regular.

June is the poorest month. We first have white or soft maple, about February 1st—a very heavy, thick, clear honey, of fine flavor. Then gum February 15th, and orange bloom about March 1st; the honey from these I do not think can be surpassed. Our greatest yield is from cabbage palmetto, about the middle of July. It makes a beautiful white honey, of very good flavor. Some seasons the showers of rain are so frequent that the honey is mostly washed out, which was the case here last summer.

There is considerable interest springing up in this vicinity in bee culture. Almost all keep a few, but mostly in log gums. I bought 40 colonies last summer in log gums, which I transferred to my hive, "The Florida," a very simple hive having 8 Langstroth frames, two stories; upper story can be used either for box honey or the extractor. It is simpler than Novice's Simplicity, and answers every purpose as well, I think. I will send you a description if you think it worth while. Bees commence to swarm in February, and if strong generally swarm 3 times, if left to themselves, and frequently cast swarms during the palmetto bloom. I swarm mine artificially, with very good success. I have 50 old colonies. Quite a number of them are light. They were small when I transferred them, but are increasing very fast now. I rear my queens on a peninsula, with no black bees near, and have as yet had no trouble from my queens mating with black drones. I am using foundation to a great extent in my brood-chambers; could not keep house without it.

The moths are very troublesome here, but the Italians soon settle them. We have an ant that is very troublesome, so much so, that we have to set our hives on stands with the legs in water. The worst enemy the bee has here is a kind of dragon-fly, called mosquito-hawk. It is very destructive, always catching the returning worker with her load of nectar, but never one bearing pollen.

I have one trouble that perhaps you or some of the many intelligent readers of the JOURNAL may tell me the reason of—that is, swarming out without any visible cause. I have had swarms come out and leave plenty of honey, with brood in all stages from the egg up, and perfectly free from moth or anything else. Even swarms with the queen clipped so she could not follow, desert and join some other colony, and leave her on the ground with a few faithful subjects. What is the matter? We have no foul brood or dysentery here.

Daytona, Fla., Feb. 10, 1879.

[The subject of abnormal swarming was treated on page 199 of the May number, and on page 257 of this issue, to which Mr. M. is referred.—ED.]

Conventions.

Central Kentucky Convention.

The fourth Semi-Annual Convention of the Central Kentucky Bee-keepers' Association, took place in Lexington, on Monday and Tuesday, May 5th and 6th. H. C. Hersperger, President, in the Chair. Minutes of last meeting read and approved, after which John F. Bean, of Montgomery county, read the following:

Bee-Keeping in Kentucky.

In Kentucky there is no branch of industry which is exciting more interest than that of bee-keeping. Hundreds of persons are rushing into the business without experience, expecting to realize fortunes in a few years with but little expense or labor.

From the hovel to the palace, the rich and poor, old and young, farmers, merchants, mechanics, and men of all classes seem to have caught the mania, and like a mighty torrent, with its angry billows sweeping everything before it, the mania for bee-keeping has spread from one end of our land to the other. In this great rush into a new business will it not be well for us to pause a moment and weigh well what we are doing? Estimates show that about 80 per cent. of the men who engage in business, after a few years, fail. Will such be said of the men rushing into the business of bee-keeping without experience? It is a question each one must decide for himself. It is to be feared that in a few years, when the excitment has subsided, and carelessness and neglect shall take the place of vigilance, reverses will come, hopes will be blasted, the bright dreams of fortune will vanish like the morning dew, and the business of keeping bees for profit will be denounced as a humbug.

For every effect there is a cause. Let a man engage in any business, his desire is success. He looks into the future with fond hopes and bright anticipations, struggling and toiling to overcome every obstacle and gain a competency. If after a few years' misfortunes overtake him and failure stares him in the face, he can trace his failure to some cause. That many will meet with failure in this new business, we do not doubt, and the cause will, in all probability, rest with the bee-keeper and not with the bees. Three things are necessary for successful bee-keeping:

1. A taste for the business is very essential. Each one must determine for himself whether or not he posseses this peculiar

trait. It requires steady nerves, a desire for investigation, and a tact for getting up everything in good order.

2. A knowledge of the nature and habits of the bees. How is this knowledge to be obtained? By study and practice. For illustration, we will take the profession of a physician. What is requisite for his success?

Is it not necessary for him to select the works of the best authors for his study, and to read the different periodicals published, where all matters pertainining to his profession are discussed; and then, with an untiring energy, devote his time to study and investigation? The same can be said of bee-keeping. In order to be successful you must procure the best works on this subject, and acquaint yourself with the nature and habits of the bee. You must read the bee periodicals, keep posted in all modern improvements and be up with the times. Without this, failure is inevitable. A sailor might as well attempt to steer his ship across the briny ocean, without sails to catch the breeze, as for a man to attempt to keep bees for profit without keeping up with the times.

One of the best works published (though not up the times in the way of modern improvements) is "Quinby's Mysteries of Bee Keeping." It is a clear, plain, and practical work on bee culture. Both interesting and instructive. It should be in the hands of every bee-keeper. From the information gained from reading this book I realized $150.00 in one year. Of a more recent date, we have Prof. A. J. Cook's "New Manual of the Apiary," and "King's Text Book," both highly recommended. I cannot too strongly impress upon your minds the importance of reading these works.

Next in order is a movable comb hive. Let it be as simple as possible. Let all complicated moth-trap hives alone. I have neither time nor space to enter into details for its use.

I will now speak of Kentucky and its resources. Only a few years have elapsed since this magnificent country of ours was a vast, unbroken wilderness. These beautiful fields and pastures were a dense cane brake, inhabited only by wild beasts and the Red Man of the forest. The monotony of the scene was broken only by the howling of the wolf or the whoop of the wild Indian, as he chased the deer from its hiding place. The rapid strides of civilization in its onward march have converted it into one of the loveliest countries on the globe. Where once the Indian wigwam stood, and the Red Man sang and danced merrily around his bright camp fires, we have now stately residences, with yards filled with beautiful flowers. Herds of fine cattle and flocks of bleating sheep have taken the place of wild beast, and blue grass and white clover have assumed the place of the dense cane brake. White clover is a spontaneous growth in Kentucky. Cast your eye over these hills and valleys during the clover bloom, and the earth looks almost as white as if it were covered with a mantle of snow. White clover is the great honey source, yielding immense quantities of beautiful white honey.

Passing on to our forest trees, we have the willow, and elm, putting forth their buds at the first appearance of spring. Following in quick succession is the locust, wild cherry and the sugar maple, with its thousand of of silken tassels, all furnishing a supply of honey and pollen. There is the stately old linden, with its graceful clusters scattering its fragrance on every breeze, yielding great quantities of delicious honey, as clear and transparent as water. The old poplar stands in all its glory, spreading its branches further and lifting its head higher than any other tree of the forest; its beautiful tulip-shaped bloom, tinged with red and yellow, opens its petals, invitingly to the bee, and furnishes a rich harvest. The amount of honey secreted in the poplar bloom is almost incredible. In our orchards, we have the apple, pear, peach and cherry. In the garden is the raspberry, strawberry, mustard, rape, turnip, and almost every vegetable grown for our use, furnishing the bee with a wasting drop of sweetness. Mother-wort and mint are also our honey producers.

In the fields is that pest of the farmer, the spanish-needle, in some sections yielding almost as much honey as clover. Catnip and horehound are found in almost every fence corner of the barn-yard lot. The homely dandelion flourishes every where. Almost everything from the most insignificient weed to the largest forest tree solicits the attention of the bee.

It is with you, bee-keepers of Kentucky, to develop the great resources of honey in this country.

Allow me a parting word of advice. Mr. Thomas G. Newman, the editor of the AMERICAN BEE JOURNAL, is present today; before leaving this house let me urge you all to subscribe for his journal; it is the best that is published.

Improved Methods of Bee Culture.

The President introduced Mr. Thos. G. Newman, of Chicago, Ill., editor of the AMERICAN BEE JOURNAL, President of the National Bee-Keepers' Convention and American Representative to the International Conventions of Europe, during this season.

Mr. Newman said he was gratified to meet so many intelligent gentlemen. The intelligence necessary to successful bee-keeping is capable of success in everything.

He then entered into an interesting and amusing description of "old fogy" bee-keepers, the "log gums" of our grandfathers and the box-hives of our fathers. He described the great advantages of the movable-frame hives of the present, and enforced the necessity of a thorough knowledge of not only the habits of the bee but also the adoption of the newest and most desirable methods of manipulation. He advised all to study the latest works on bee-culture, especially Cook's Manual, which was a thorough and masterly production, alike valuable to the scholar, the specialist and the beginner. The more simple the hive the better. All knew that he was partial to the Langstroth hive; nevererthless there were very few movable comb hives that contained no good feature. With almost any of them the apiarist could be successful, if he adopted a system of scientific and practical management. The most important point being to select one style of frame and then to adopt no other; for to be successful, all the frames in an apiary should be perfectly interchangeable.

He approved of the one and two pound sections for surplus honey, used with separators. These were essential in order to pack in crates for shipping to market, and such always commanded the highest prices in the large cities of the North.

He said we are taught to pray, "Lead us not into temptation," but we justifiably transgress by putting up our honey in the most enticing manner to tempt the people's appetites, and their pockets. It is all right so long as we don't tempt them to do evil. He said extracted honey is far superior to comb honey, and better and cheaper for the people, but we must educate them to its use.

He then spoke of extractors as one of the great improvements of the age, and next in importance to the movable frame hives. The one on exhibition made by Mr. C. F. Muth, of Cincinnati, O., was a very good machine, as hundreds who were now using them would testify.

He then spoke at some length of the excellent qualities of Italian bees and the importance of improving our stock. Lexington possesses a world-wide reputation for its improved stock and bee-keepers should be fully alive to their interests.

The improvement of the race is the great key note to all success. He summed up by saying that Italian bees are at least fifty per cent. better than the common blacks.

He spoke of the fact that all the World was looking and wondering at the progress of American improvements in bee culture, and implements of the apiary generally, and he quoted the following sentence in proof of this assertion from a recent letter from L'Abbe Dubois, of the Societie de Apiculteur, de La Somme (Northern France). "We are looking for more light, and find the most important and interesting experiments are made by our colleagues in America."

He then spoke of the importance of buying none but the best tested Queens—that the business of flooding the country with Dollar Queens ought to be stopped.

He said that he and the AMERICAN BEE JOURNAL (of which he is editor), have declared an eternal warfare against adulteration in all its forms ; and he added that the use of glucose for feeding bees, cannot be too strongly condemned. He said children ought to be the largest consumers of honey, as it is the God-given food : "My son, eat thou honey, because it is good."

Mr. Newman's extemporaneous address was duly appreciated and heartily endorsed; and on motion of J. W. Rose, seconded by the Secretary, a unanimous and rising vote of thanks was tendered him for the excellent discourse after which the Convention adjourned for dinner.

AFTERNOON SESSION.

General R. M. Gano offered the following resolution, which was unanimously adopted :

Resolved, That the members of this Convention will do all in their power to keep the honey pure and unadulterated, and they will enforce the law against any person known to violate the laws of our State on the subject of adulteration of honey, and that we will each put our names upon our cans or jars of extracted honey, before placing it upon the market.

The Secretary offered the following resolution, which was adopted :

Resolved, By this Association, in convention assembled, that pure extracted honey is the best and cheapest, (because honey alone is paid for). It is healthiest, acts as food, medicine, and a luxury combined. We would therefore recommend its use in every family as preferable to comb honey.

Mr. T. G. Newman, being called upon delivered an interesting address, which was received with considerable applause. Being obliged to leave at 2:30 p.m., to enable him to reach the next meeting in Illinois on time, the Convention took a recess of 10 minutes to enable the members to take their leave of him. Mr. Newman was followed by the good wishes of all present.

General Gano said he would like to hear the subject of honey-souring fully discussed so as to be enlightened for the future.

Although he had never had any to sour, the President said he had once sent some cans of extracted honey to Lexington ; it was jolted in the wagon and exposed to the hot sun for several hours, and some of that did sour. He said there are people who are prejudiced against extracted honey, because they love to chew the wax, on the same principle that ladies and children love to chew paraffine gum.

The Secretary said it was a matter of judgment as to when to extract honey to prevent it from souring in very dry weather, when honey is fully matured, there would be no danger of souring if taken or extracted in wet or damp weather. It should be left uncovered, in a dry, cool place, so that all elements of souring would evaporate.

The President said it is essential that newly extracted honey should be exposed to dry air—the drier, the better.

Mr. J. F. Bean said, "In California, in large apiaries, they have large flat vats to pour the honey in just as extracted, and thus all dampness and watery fluid evaporates and prevents the honey from souring in the future."

The Best Manner of Wintering Bees.

J. F. Bean said he had been very successful in wintering bees. He merely places small strips over the brood-chamber, and put three layers of common cotton cloth on top of them ; always lets his bees fly in winter whenever the weather is good.

W. B. Herring said he has been successful in wintering, and adopted a similar plan to Mr. Bean's, except that he used chaff cushions, made of old coffee sacks filled with chaff.

J. W. Rose said that wintering in Kentucky is a simple matter to what it is North. He leaves all his bees in the Langstroth hives on their summer stands, with little, if any, other protection and he always wintered with success.

C. H. Dean spoke in favor of wintering bees in his Chaff Simplicity Hive, and in support of his views, read an article from *Gleanings in Bee Culture*.

J. F. Bean said that such hives are necessary in cold Northern climates, but not in Kentucky, as he had wintered bees successfully as an experiment in hives made of half inch plank.

C. H. Dean said we all use and endorse the Langstroth hive, at least the frames, and that is the principle, no matter what the outside may be.

On motion, the President appointed the following committee to select subjects for discussion for the second day's session: W. Williamson, R. M. Gano, J. F. Bean.

Honey Show.

On motion a committee was appointed to take into consideration, and act upon the communication of Dr. R. J. Spurr, Vice President of the Agricultural and Mechanical Association, of Fayette county, and by special motion the President was to act as chairman of the following committee: H. C. Hersperger, W. Williamson, F. P. Scearce.

The communication read as follows:

Lexington, Ky., May 2, 1879.

MR. W. WILLIAMSON, *Sec.* Dear Sir.—Yours of April 30th is before me, and I answer that the present Board of Directors for our fair have not felt that it was their privilege to do any act in the way of giving premiums that would be in any way, binding upon their successors. A new Board will be elected on Saturday, the 10th inst., and I do not hesitate to say that they will meet the wishes of the Bee-keepers' Association in a liberal spirit. I wish your meeting would indicate what they want, and lay it before the new Board. Very respectfully, R. J. SPURR.

On motion, convention adjourned to meet on the following morning at 10 o'clock.

SECOND DAY.

Convention called to order. President Hersperger in the Chair.

Reports of committees being called for, the following were received and read:

We, your committee appointed to indicate the wishes of this Association in regard to bee-keeping interests, as suggested by Dr. R. J. Spurr, as Vice President of the Agricultural and Mechanical Association, of Fayette Co., desire to have it fully recognized at their next fair, by offering such premiums as they may be pleased to offer, recommend the following: Best display of honey. Best honey. Best display of bee-keepers' supplies.

H. C. HERSPERGER,
W. WILLIAMSON, *Committee.*
F. P. SCEARCE,

On motion, it was unanimously decided for this Association to add to the premium for "best display of honey"—a silver medal.

Committee appointed to select suitable questions for discussion, reported the following:

1. How to prevent swarming?
2. Which kind of bees are preferable in Kentucky?
3. Best honey-producing plants?
4. What number of colonies will prove profitable in one locality of Central Kentucky?
5. Are any other safeguards necessary against moth, than simply strengthening the colonies with the best strains of bees?

W. WILLIAMSON,
R. M. GANO, *Committee.*
J. F. BEAN,

How to Prevent Swarming.

Mr. White, of Indiana, said bees ought to have plenty of room and ventilation; as colonies increase in strength give them room.

The President said that to beginners this question is not of much importance, as they nearly all want swarms, while it is the reverse with advanced bee-keepers. We rarely have an abundant supply of honey and swarms during the same season in Kentucky. A good plan when the bees get the swarming fever is to get a new hive, take all the brood frames, bees and all, put them in it and remove it a few yards from the old location; the bees will imagine they have accomplished their swarming, and go right to work.

General Gano said his experience covered a number of years, but of late he has paid more attention to bee culture than ever before, and knew of no better way to prevent swarming than by removing queen-cells. He does not approve of too much room and has invariably failed with "palace hives."

J. B. Williamson said: You are all aware that we use the Langstroth hive exclusively; and to prevent swarming we put a few frames of empty comb in the center of the brood-chamber, remove the queen-cells; keep the bees in a cool, shady place, and we have no trouble.

The President said, if you will follow the plan just given you I am sure it will prevent swarming, and consequently the first steps he would take to prevent swarming, would be to give them good shade. Keep them cool, or if they get heated up, (for this is what I call the swarming fever), if they get the swarming fever, they are very hard to control, unless put into a new hive, as I have already suggested. Cutting out queen-cells will only prevent swarming while you continue to cut them out.

What Bees are Preferable in Kentucky.

After a general discussion of fine points it was unanimously admitted that a good strain of pure Italians are the best.

The Best Honey-Producing Plants.

The Secretary said that Alsike clover was one of the most profitable and best honey-producing plants, although not much known in Kentucky. If the experience and testimony of prominent and progressive farmers and apiarists in other States are worth anything, it is a pronounced success; but all flowers and plants produce honey to a certain extent—mignonette, turnip bloom, and thousands of blossoms, trees and shrubs of all kinds. Our great object should be to induce farmers to sow such seeds as will prove profitable as a farm product, and at the same time produce the sweets of a good honey crop.

The President said, it is a very fortunate provision of nature that in early spring the plants that bloom being bitter and unfit for producing honey for family use, the bees use it all up in feeding their young, before the flow of surplus honey is stored.

How Many Colonies will prove Profitable in One Locality in Kentucky?

J. W. Rose said Kentucky is as capable of supporting profitably as many colonies to the square acre as any State in the Union.

The President said that he could not fully agree with Mr. Rose, as our country here is principally composed of Blue Grass. In the county of Jessamine are about 600 farms. A good rule would be for every farmer to keep just enough bees to supply his own family with honey.

J. W. Rose said in his neighborhood, within an area of six miles, there are over 500 colonies, and all have proven more profitable than any he has heard of.

Are any other Safeguards necessary Against Moth than simply Strengthening Colonies with the Best Strain of Bees?

Gen. Gano said: My object is to learn, and we can all learn better by meeting and telling our experience. It is my opinion that other safeguards are necessary. I feel that a majority of you are against me, but I came here to be righted if wrong. The Excelsior hive I claim is a moth-proof hive. I have used Langstroth hives, but since using the Excelsior I have had no trouble whatever, and would like to know how much of my success is due to the hive I use. It may be we are more troubled with moth in Texas, where I reside, than in Kentucky. I am free to admit that Italian bees protect themselves better than blacks. He then criticised Mr. C. H. Dean's essay as condemning everything in the shape of moth-proof hives.

J. R. Williamson said that Mr. Dean, in his essay, condemned moth traps and patent hives in general, but Mr. Dean is only echoing the warning voice of all American bee journals and magazines.

Mr. Dean said that when he prepared his essay he was not aware there would be any moth-traps at the Convention, or he might not have written as he had, as it is a great deal easier to talk behind a man's back than to his face. The Langstroth hive, filled with the best strains of bees, as the question embraces, is undoubtedly the best moth-proof hive known.

Pres. Hersperger then delivered the following address:

Success in Bee-Keeping.

Another year has rolled around. Another springtime has come, and we are again assembled to talk and learn of one of the industries of our land, and one of the sources of wealth to our nation. The winter has been a severe one, and many of our little pets have left us, but the soft winds from the sunny land of the South have opened the buds and carpeted the fields in clover of purple and gold, and the hum of the bee as it improves the shining hours, is again heard around us. They are already increasing their numbers by thousands and tens of thousands, and the depleted hives, from the cold winter, will again, under judicious management, soon be replenished and ready for work. Nature has so ordained that with the increase of the flora comes the increase of bees. The harvest and the harvesters come simultaneously. But this does not argue, by any means, that he who has flowers and bees will of necessity reap a harvest of honey. The race is not always to the swift, nor the battle to the strong.

Prudent and skillful management, coupled with energy and industry, almost always brings success in all departments of life. But in nothing is it more absolutely necessary than in the successful management of bees. So much depends upon the man; upon his industry, his energy, his habit of thinking and investigating, his perseverance and unbending determinrtion to succeed, that I am forced to say that success in bee-keeping depends upon the man; of course the elements or conditions of success must be present. The flora must be in the fields, and the honey must be in the tiny cells of the flora, but to gather it in and secure and and save the greatest possible amount is where the prudent and skillful management comes in. He who turns over every stone and leaves nothing undone that can be done; who knows the wants and condition of every hive; who reads and thinks, compares and examines all the bearings upon the subject, will succeed without fail, unless the honey be absent from the fields. And this same tenacity to business brings success in all departments of life, I care not whether it be with the professions or with the humble, but none the less noble calling of farming. Look around you and see who are the successful men, and you will see at once energy and industry and good management combined. A determination to succeed, with the proper elements at hand, will surely bring success. One of the sources of failure in bee-keeping is the eagerness to increase in stock beyond the ability to manage them. Every beginner in bee-keeping should aim to make honey, and let increase in bees alone. They will increase of themselves as fast as he can learn to take care of them. "Make haste slowly," is the advice of one of our best bee-keepers. Another source of trouble is that our country is being flooded with poor queens and worthless bees. The cry has gone out over the land for dollar queens—"the daughters of imported mothers." Nothing else is required, except that they be the fertile daughters of imported mothers. This gives any one the right to sell queens who has an imported mother. No difference how many black bees are around you and in your own apiary; how poor your chances are to have a solitary queen purely fertilized, you have the right to send them out broadcast over the land to your customers, far and near, under the high sounding title, "daughters of imported mothers." Is this right? Has a man the right to sell queens when he knows the chances for purity of fertilization are not at all favorable? I have blacks all around me, with plenty of hybrids in my apiary, and yet I have the right, under this ruling, to get a $5 imported queen and raise and sell a hundred queens this season, and thereby put a hundred dollars into my pocket. But would this be right? I claim it would not, and that no one should offer queens for sale unless the chances for purity of fertilization are favorable. In order to do this his own apiary should be all Italian, and his nearest neighbors as well. And then, again, not every queen that comes from Italy is a pure Italian. This for a long time was not so understood, but believed that every queen that crossed the ocean was pure, but it is now conceded by the best apiarists of our country that the German bees have been introduced into Italy and are mixed in with the Italian of that country. Mr. C. J. Quinby, at the New York Convention, said that "nowhere in Italy did he find Italians unmixed, nor were any of the bees he saw in Italy as universal in markings as in this country." Mr. J. H. Nellis, of Canajoharie, New York, says: "I confess I am thoroughly disgusted with the majority of imported queens and their progeny."

Then, gentlemen, what are we to do? Simply this: Breed and rear queens for the special characteristics we want. What do we want? We want the very best honey producers. We want bees that make the best results. Then, let every house-keeper in Kentucky turn his attention to the development of a race or strain of bees, and we can astonish the world in this department, as we have astonished them in the noble strains of our horses and our cattle. Our genial climate, our central position between the North and the South, our productive soil with its invigorating and distinctive elements entering into its productions, gives to us a home and a nursery for the development and perfecting of animal life in all its forms unequalled in the wide range of human knowledge.

Gen. Gano said there is a good demand for pure Italian queens in Texas, and as soon as some good party would make a business of raising the best strains of queens he would assure them of a good market in Texas.

The President said Central Kentucky is best adapted for queen raising that he knew of; its central position making it a very desirable location.

Mr. C. H. Dean, Sr., offered the following resolution, which was adopted:

Resolved, That it is the sense of this Convention that our President, Mr. C. Hersperger, be requested to prepare and have published in the Lexington papers, Jessamine *Journal*, Woodford *Sun*, and all local papers of the State, an article on extracted honey, explaining the process so that it can be understood by the public generally.

The following motion was unanimously adopted:

Resolved, That all newspapers, magazines and journals friendly to this association, and the bee-keeping interests of the State, are hereby requested to publish the proceedings of this Convention.

Being no further business before the Convention, on motion adjourned to meet in Lexington on the first Tuesday in October next, at 10 a. m.

Mr. C. H. Dean, Sr., did not leave his essay with the Secretary, having forgotten to do so (and being at his home in Woodford county), is the reason his essay is not published with these proceedings.

There was on exhibition a large display of all the latest improved bee-keepers' supplies—the Standard Langstroth Hives, the Simplicity Langstroth, Cottage Hive, Vanhorn Excelsior, and White's Palace Hive, Muth's Extractor, the best journals and books on bee culture. Altogether, this has been the most interesting and successful convention the association has ever held..

W. Williamson, Sec'y.

☞ The bee-keepers of Mahoning, O., and adjoining counties, met on the last Saturday of February, and organized an association, called "The Mahoning Valley Bee-keepers' Society." A Constitution and By-laws were adopted. The following officers were elected: Leonidas Carson, President; C. B. Beardsley, Vice President; B. T. Stanley, Secretary and George Carson, Treasurer.

All persons interested in bee culture are invited to join this Association.

Leonidas Carson, *Pres.*

Livingston Co., Mich., Convention.

This meeting was held in Howell, Mich., April 19, 1879. The morning session was an informal one. Prof. A. J. Cook and Mr. Frank Benton brought in a number of apiarian implements and placed them upon exhibition.

One of the members asked for the best time to transfer bees. Prof. Cook said it could best be done during the time of apple-bloom, as there was then less honey and less annoyance from robbers.

Mr. Benton said in answer to some question in regard to comb-foundation, that it should not go nearer than one or two inches to the bottom of the frames, and might be fastened by stiffening it every one or two inches and ultimately pressing it to each side of the comb-guide, then pressing it on the comb-guide so it would stick.

At the afternoon session about 60 persons were present, and the first six of the eight questions which had been selected for discussion were gone through with.

The discussion of the first question on the distance of frames from each other and from the sides of the hives was opened by Mr. H. Blackburn, of LeRoy. He liked to have his frames exactly square. Mr. Benton preferred them slightly narrower at the bottom than at the top, so that the distance between the side pieces of the frames and sides of the hives would be one-fourth of an inch at the top and three-eights of an inch at the bottom, and claimed they would lift out easier; he also advocated staples in the ends of the bottom-bar to save crushing bees in lifting the frames out.

Prof. Cook said the most important thing was to have all frames exactly alike and true; in visiting Mr. Wolcott's apiary he found just such frames and found that his rule was correct.

All members favored about ¼ inch as the proper distance to give bees free passage and still prevent them from building combs between the frames and the sides of the hive.

The discussion of the second question, on the best mode of marketing honey, was opened by Mr. Wolcott, who put up his honey mostly in the boxes recommended by Mr. Langstroth; he had seen in his travels through France, England and Scotland, nothing very new or admirable in the line of honey-packages.

Prof. Cook recommended section-boxes put first into the brood-chamber until a rush of honey comes, then into top stories above the brood nest: thinks extracted honey will pay best put up in jelly-cups, as they could afterwards be used, while empty bottles, such as Mr. Muth, of Cincinnati recommends, would be of no use after being emptied of honey. The Prof. showed some very fine samples of clover, basswood and buckwheat honey, all granulated, also some Southern honey from New Orleans, not granulated but of inferior flavor.

Mr. Benton recommends flint glass cups having bails and holding 1 or 1¼ lbs., which could be procured in any of our cities by wholesale at quite reasonable rates, also a large can should be filled with honey and the producer's name painted on it and supplied with a molasses gate, then put into some grocery store.

Mr. Blackburn thought little pots or cups too expensive.

Will bees gather honey from red clover? —was answered in the negitive, as regards black bees, no one having ever seen them working on it. Italians were said to work on it some—especially on the second crop.

Mr. Benton had visited a bee-keeper who showed him quite an amount of honey gathered from red clover.

Prof. Cook protested against the use of comb-foundation in surplus boxes, while Mr. Blackburn used them and never had any fault found, and thinks section boxes will stand shipping better by having comb-foundations used in them.

The next question brought out a condemnation of the use of grape sugar as being injurious to bees and men.

The next question was: Should queens' wings be clipped? Prof. Cook advocated it very decidedly, as it would save a great deal of anxiety and time in swarming them, by being sure that the bees would always come back from high trees or other inacessible places, or where several swarms happened to cluster together in one place.

Mr. Benton and others also recommended it, and had never lost any queens or swarms by following the plan.

Prof. Cook stated that the most important thing now was to have good queens and feed to stimulate; he advocated feeding any time when the bees were not gathering honey.

Mr. Charles, of the Agricultural College, was then introduced by Prof. Cook and he explained and showed a new and very valuable feeder invented by the Professor and manufactured by himself. This feeder is used as a division board, and is calculated to be used in spring.

Prof. Cook thinks dysentery is often caused from feeding them sugar syrup or honey late in the fall.

Mr. H. Ross asked whether there was danger from feeding unbolted flour.

Prof. Cook ~~thought not,~~ as bees would not take more than they wanted.

Mr. Wolcott said cholera was caused by annoying the bees when they do not fly, so that they gorge themselves when disturbed.

Mr. Ross asked whether combs might be turned in transferring; Prof. Cook thought it made no difference.

For wintering Prof. Cook recommended a well ventilated dark cellar.

Mr. Lathland described his success in wintering in his cellar, and prefers hives with loose bottoms.

Mr. A. E. Cole thinks that he lost a number of colonies from their eating uncapped honey.

Mr. Benton then being called on explained the use of the extractor, and gave an interesting history of its invention.

The time of holding the next meeting was left to the Executive Committee.

THEO. WELCKER, *Sec.*

[This feeder is described on page 266 of this JOURNAL.—ED.]

Read before the Addison Co., Vt., Convention.

The Adulteration of Honey.

E. A. HASSELTINE.

The adulteration of sweets is a subject that is coming before the common people. The universal demand and the consequent supply of sweets in some form, make it a subject, I may almost say of paramount importance, and while it may be an easy matter to state this fact, and to talk around it and about it, yet to get underneath it, to analyze the motives which underlie it in its various forms; to show its relations both to the producer on the one hand, and the consumer on the other, is a theme far too wide and deep for me to grapple with to-day, so we must be content to present a few observations which may at least serve as subjects for us as bee-keepers to reflect upon, as we go about our various duties. Let us, as a company of honest men, look this evil squarely in the face and if possible make some effort, though feeble, to throttle this monster which bids fair to gnaw at, if not to destroy the interest of every honey producer.

A few words about sugar and we pass to consider that part of the subject which more directly interests us. Go into any of our grocery stores and examine any of the cheaper grades of sugar, smell of them and you will easily detect a strong offensive odor, something like that which is termed a barnyard smell. This same scent is retained after using. It can be easily detected in canned fruits, pies of any kind, and when this sugar is used as a sweetening for tea without milk in it changes it to a dark color, like that of strong lye. This has not more than fifty per cent of sweetening properties. The foreign qualities of such sugars are said to be glucose or grape sugar, with some of the strong acids, sulphuric or muriatic, with some salts of tin. Its effects upon the human system are a question of dispute among M. D's, and when doctors disagree who shall decide? It would seem that good sense would at least prefer good sugar.

The adulteration of honey is doubtless one of the most important questions connected with our business as honey producers. The very term implies dishonesty; it savors strongly of rascality. Honey may be adulterated by the producer by the use of sugar, glucose or the use of foundation in boxes. This last does not necessitate an impurity in honey, strictly speaking, but it is our opinion it may give sufficient ground for condemning box honey as spurious. In this case, the dishonesty or rascality must be in the mind of the producer. Bees are honest, and when left to themselves give us their products in their natural purity, but can be to a certain extent made a "cat's paw" for the avarice and insatiable greed of their owners. We, as honey producers, can remedy this evil. Let us put nothing into the market but the pure article. There may be money at the bottom of the dish, but we are apt to let our wallets out-weigh our common sense ; to be more anxious for large bank deposits than large hearts. "Honesty is the best policy," and as we once heard it remarked by a man of experience upon the subject of marketing produce, "Produce a good article and you will have no difficulty selling it." "Multum in parvo," is a good motto for every farmer.

Strained or extracted honey is more easily adulterated, because it is subject to the manipulations of more unscrupulous hands before reaching the table of the consumer or the laboratory of the druggists. It is an effort made by the more unprincipled men to offer as honey that which is not honey. The very ignorance of what good honey is, gives an opportunity for the introduction of a spurious article and being in the hands of shrewd men, they will spare no effort in pushing it forward, because there is great profit involved in it. As it now is, the people will become educated in bad honey much faster than in the delicious products of the bee. This will be fatal, not only because it will supplant the legitimate demand for the real article, but because of its impurity, they will be led to look with aversion upon the very name of honey. In consideration of this matter there are suggested four things necessary to be done. First.—Every honey producer must send out nothing but the geniune article. Second.—Sell to the consumer as directly as possible. Third.—Enlighten the minds of the people as to what good and pure honey is. Fourth.—To do what is in our power for the enactment of laws punishing the adulterator, and confiscating the adulterated. The first of these is apparent from what was said above. The second, the selling directly to the consumer, enables him to buy at lower rates avoiding the profits of middle men. Furthermore, it assists in establishing an individual reputation for producing a good article. The third, enlightenment is the forearm of reform and unless the consumer knows what good honey is he is more easily satisfied with the spurious. Men drink modern whiskey, because it is in the market; although it leaves them with aching heads and unsteady nerves. The fourth, the protection and good of the people is the design of legislation and very properly it puts its strong arm on the adulteration of food. Honey is fast becoming an article of consumption among our people, hence it seems proper that some action should be taken, by which it may be given to them free from impurities.

Glucose and Oleomargarine butter are twin sisters, and while law directs that every package of this stuff called butter should be stamped in such a manner that every one may know what they buy, so should it be with honey. Is not this truly a cause of alarm ? Honey is a poor article, unless it can be sold at such a price as to give fair remuneration for investments and trouble. Most farm products have many ways in which they can be disposed of, but honey must be sold. It seems to us that the prospects for honey producers are a little cloudy, but let us acquit ourselves honorable in striving to give our productions in their native purity.

Middlebury, Vt.

◆

Central Michigan Convention.

About 100 persons, 25 of them ladies, assembled in Pioneer Hall in the new Capitol building to take part in the proceedings of this Association.

An Everett honey-extractor, wax-extractors, hives, smokers, comb-foundation, copies of all the bee-papers, and many other articles of interests, quite a number of which were kindly sent by Mr. J. H. Nellis, of Canajoharie, N. Y., were on exhibition.

Prof. A. J. Cook, of the State Agricultural College, read an interesting paper on "Bee Smokers," detailing their history from their mention first by Columella, then in German, French, and English bee-publications, down to their improvement by the late M. Quinby, and later still by our own T. F. Bingham, recommending the Bingham form as strongest, handiest and most efficient.

A general discussion of manipulation of bees followed.

In the afternoon the Secretary read a paper on "Queens and Stimulative Feeding" stating that these two things as vital points, should receive the careful attention of every bee-cultivator, and claiming that when this was done it would not matter so much about the size of frames, style of hive, method of swarming, wintering, etc. He advised great care in the selection of prolific queens whose bees were hardy and industrious, to breed from ; pains in queen-rearing ; and would feed whenever, between April 15th and October 1st, bees were not gathering honey. "Queens," he said, "are the foundation of an apiary, while the corner-stone is stimulative feeding."

Hon. A. B. Cheney, President of the State Bee-keepers' Association, then addressed the meeting, concurring in the points above stated, speaking in high terms of the new bee-feeder invented by Prof. Cook, and, in answer to questions on various topics by members, gave much information valuable to those present.

Mr. S. D. Newbro, of North Lansing, brought forward his "bag-hive" designed for winter use only, and in a paper of much interest presented its claims. "A Factor in Wintering," was Mr. Newbro's subject, and he showed that the removal of the moisture from the hives by means of absorbents is in wintering a very important factor. His hive is a frame-work surrounded with cloth, the whole to be packed in chaff if left out of doors. He thought it a great mistake to put a painted inch board between the combs and the absorbents.

While Mr. L. B. Baker and Prof. Cook did not seem to favor Mr. Newbro's plan, the Secretary expressed himself greatly in its favor, and called attention to the fact that he brought forward substantially the same plan at the last meeting.

The question box elicited many replies valuable to the questioners.

Mrs. L. B. Baker, Mrs. E. C. Leach, and Messrs, Ashworth, Baker, Blackburn, Caruss, Cole, Greenaway, Waldo, Welcker, Wood, and many others helped in making the meeting lively, and, altogether, a good time was had.

Thirty-five members reported 586 colonies put up for winter ; 37 had died during the winter, and 55 during the spring ; 175 were in chaff hives ; 96 packed ; 52 buried ; 393 in cellars ; and 11 unprotected. From various reports it appeared about four-fifths of the bees that had been uncared-for had died during the past winter and spring, while from the table it can be seen that only about one-sixth of those which received care, were lost.

Vice-presidents for the counties represented were elected, and delegates to the meeting of the State Association, and to the Livingston county, Association, then it was resolved that all members attending the National Convention, should be regarded as delegates. The Association then adjourned to convene in Lansing, Oct., 15, 1879.

FRANK BENTON, *Sec.*

Southern Kentucky Convention.

This Association met at Gainsville, Allen Co., May 2, 1879, Pres. Cook in the chair. After reading the minutes of the last meeting, and the enrollment of new members, J. Erwin was elected assistant Secretary.

The President announced the following question for discussion:

"Can Bee-Keeping, as a Profession, be Made a Success?"

Mr. Newman was called upon, and responded in a few appropriate and interesting remarks. He said that with the aid of the new inventions and discoveries, we could have entire control of our bees; that in order to make bee-keeping a success we must educate ourselves in the science of bee-culture, and avail ourselves of the movable frame, the honey extractor, comb foundation, bee smokers, and the Italian bee. Said comb foundation ought not to be used in honey-boxes. If used at all in boxes, must not be wider than half-inch. Said it was a good thing in the brood department of the hive, and he was in favor of filling the frames with it, leaving one inch space at the bottom and ½ inch at each end of the frame.

Dr. Allen favored the use of comb foundation in honey boxes, in narrow strips, one inch wide, as a V shaped strip; thought it a great help in getting bees to begin work in boxes. He also stated that he had not found it a success in brood-nests, but was of the opinion that the foundation with wire or linen might be made a success.

The Committee on Arrangements reported dinner on the ground, and, on motion, the Convention adjourned.

At 1 P. M. the Convention assembled and was addressed by Mr. Newman, editer of the AMERICAN BEE JOURNAL, on "Honey, its uses and abuses."

Recess for 20 minutes, after which the second question on the programme was again taken up and discussed in a very able and interesting manner by J. Erwin, J. D. Davis and W. Cook.

The President appointed the following committees:

On Apiarian Supplies—J. Erwin, J. D. Davis, E. Moore and W. T. Sears.

On the State of Bee Culture—J. Erwin, J. D. Davis and J. L. Garvin.

Committee to decide Premiums—J. Stark, D. Stoval and E. Neale.

"Bee-Feeding and Bee-Forage."

Mr. Gavin said he fed rye meal and sugar syrup in early spring.

Poplar and white clover was the best spring forage, and buck-wheat for fall forage.

Mr. Greer said sugar syrup was not as good feed for bees as honey.

Dr. Allen said bees ought to be fed when they need it. Said in his location the white clover alone gave them their surplus honey, but on water courses and in the mountains, that the poplar and linn afforded an abundant honey harvest.

Mr. Sears said he never had occasion to feed but one colony of bees, and it died. Said he never extracted from brood nests; always left his bees plenty of honey to winter on.

Mr. Davis lived in a land of honey and had but little occasion to feed bees; kept over some honey in comb to give bees; he thought the plumb, apple, poplar, linn, redbud, white clover, astor, golden-bud and farewell-summer gave us the richest honey harvest.

Annual Convention.

Edmunton, Metcalf Co., was selected as the place, and 23d and 24th of October next as the time.

On motion, the Secretary was authorized to pay the printing, postage and stationery accounts. Carried.

On motion, the Convention adjourned to meet at 9 o'clock May 3d.

SECOND DAY.

On motion, T. G. Newman was elected an honorary member of this Association.

On motion, the thanks of this Convention was tendered to Mr. Newman for his very able and interesting addresses before this Association, and for his kindness in furnishing us with samples of apiarian supplies, books, etc.

The reports of committees was then called for. The Committee on Apiarian Supplies reported as follows:

We, your committee on Apiarian Supplies, beg leave to report that there is on exhibition at this meeting of the Association, the following articles: From T. G. Newman & Son, Chicago, Ill., Bingham Smokers, queen cages, Boss Bee-Feeders, bee veils, honey knives, books and pamphlets on bee culture, all of which we recommend as valuable aids to the bee-keeper. From H. A. Courtney, Glasgow, Ky., the Golden Bee Hive, which we can recommend as having many valuable features, being far superior to the common box hive.

The committee on State of Bee Culture reported as follows:

We, your committee on the State of Bee Culture in Southern Kentucky, beg leave to report that so far as our information extends, the condition of bee culture within the bounds of this Association is not as prosperous, as regards the number of colonies, as it was a year ago. Great loss of bees sustained in most of the counties of Southern Kentucky, through the ravages of a disease known as dyseutery. The loss being much greater in some localities than others; the least loss being in Cumberland county and counties bordering on the Cumberland river; yet we believe that, through the efforts of this Association, scientific bee culture is gradually gaining ground, old methods and old prejudices are vanishing away under the light that modern science has shed upon this subject. Honey production is steadily increasing, and the future for bee keeping was never more promising than at the present time.

The report was received and the committee discharged.

The Committee on Premiums reported as follows:

We, your Committee to decide premiums, as offered by Dr. Allen and T. G. Newman, would beg leave to report the following: E. Moore, nine, first premium; N. P. Allen, eight, second premium; H. W. Sanders, seven, third premium; J. L. Garvin, four, fourth preminm. All of which we respectfully submit.

The report was received and the committee discharged.

What is the best Hive?

Mr. Owens and Joe. Allen explained the Golden hive. Mr. Sanders said he preferred the Langstroth hive to all others; thought it the best hive in use; said there was no patent on it, and advised all to use it.

Mr. Sears agreed with Mr. Sanders that the Langstroth hive was the best. Mr. Erwin said the Golden bee-hive had some good features about it; that it was a movable frame hive, and for farmers on a small scale would answer much better than the old box hive; said that all the various hives had their advocates; some like one and some another; as for himself he preferred the Langstroth hive, as it was almost universally used by specialists in bee culture; said he thought the Chaff hive the coming hive; that he had made one and wintered his weakest colony of bees in it, and they came out in the spring the strongest colony; it was a Langstroth hive with a chaff apartment around it. For winter protection he advised all to have but one style of hive and one-sized frame.

A general discussion on last year's work was engaged in by Garvin, Mitchell, Greer, Boyd, Saunders, Erwin, Cook and others.

After the discussion was closed the President delivered one of his soul-stirring addresses. He carried us back to our childhood days, and pictured in glowing terms the condition of bee-culture in that age of ignorance and superstition; showed us how the intelligence of man had brought order out of confusion, light out of darkness, and blessed us with delicious, heaven-born, unadulterated honey; told us that with the modern inventions, bee-culture had been made a pleasant pursuit, a blessing to all who availed themselves of its pleasures; urged all to keep a few colonies of bees, to furnish their tables with one of the greatest blessings of God to man—pure honey.

The Secretary offered the following resolution, which, on motion, was adopted:

Resolved, That the thanks of this Association be tendered the citizens of Gainesville and vicinity for the use of their church-honse to hold our meetings in, and for their generous hospitality in entertaining us at their homes and furnishing us with sumptuous dinners on the ground during the meetings of this Association.

On motion, the President appointed the following committee of arrangement for the next meeting of this Convention: F. Reed, Jo. Ray, M. Yates, Joe Allen, J. D. Davis and Sam Reid.

Adjourned to meet at Edmunton, Metcalf Co., Ky., on the 23d and 24th of Oct. next.

W. COOK, Pres.

N. P. ALLEN, Sec'y.

Union Bee-keepers' Convention, Ky.

The Union Bee-keepers' Association of Henry and Shelby Counties, Ky., met at Eminence, April 3, 1879.

Dr. L. E. Brown, President. E. Drane, Secretary. The President delivered a short appropiate address urging the importance of bee culture as a source of both pleasure and profit.

Owing to the very inclement weather the attendance was not large—ten new members were added to our roll.

Dr. L. E. Brown was unanimously re-elected President. A. P. Curruthers, Vice President. W. L. Hopkins, Secretary. E. Drane, Treasurer.

E. Drane read an essay on artificial swarming—also exhibited a crate of comb honey in prize boxes, which was much admired; extracted honey two years old in Muth's 1 and 2 lb. jars; preserves and cake made with honey. Various sections and small frames, bee-feeders and the various bee publications of the United States, were exhibited.

We had a nice basket dinner and hot coffee—and a general lively time.

Dr. W. M. Rogers was appointed to write an essay on the purity of Italian bees. G. W. Demaree to write on races of bees. J. McConnell to write on bee pastuage.

S. T. Drane invited the Association to meet at his apiary, sometime in the honey season, in order to witness practical work. All persons interested in bees or honey, and especially the ladies are invited—due notice of suitable time to be given as the season indicates—which invitation was accepted and the Association adjourned.

There will be a practical lady apiarist present, who will demostrate the fact that ladies can and do handle bees as well as men.

DR. L. E. BROWN, *Pres.*

E. DRANE, *Sec.*

National Association.

Lowell, Ky., May 6, 1879.

Owing to continued poor health and too much business on my hands, it is impossible for me to attend to the interests of the National Association as vice-president for Kentucky as the case requires. I therefore tender my resignation, deeply regretting the step I am compelled to take. I do not now think of a better one to fill my place than Mr. Wm. Williamson of Lexington.

R. M. ARGO.

[We deeply regret to have Mr. Argo resign, but know of his press of business and physical afflictions. We therefore have appointed Mr. Williamson as Mr. Argo's successor, according to his suggestion.

THOS. G. NEWMAN, Pres't.

Foreign Notes.

Abnormal Winter Distension of Bees.

Mr. F. Cheshire delivered a very interesting lecture before the British Bee Keepers' Association at their late meeting in London on the subject of the "abnormal distension of the hive bee during winter, and the means of checking the same." As this subject is of considerable interest now to American apiarists, we copy the following from the report as published in the *British Bee Journal:*

Physiologists divided food into two classes one contributing to force and the formation of heat, and the other building up material other than fat. Pollen was exceedingly rich in nitrogen, and contained, also, abundance of phosphorus and other matter which constituted it a tissue-forming food. Honey, on the contrary, was a hydro-carbon, consisting almost entirely of saccharine matters, and, like common sugar, did not undergo digestion, but simply transuded through the delicate tissues into the circulation, becoming utilized for giving heat and force. So used, it is converted into water on the one hand, and carbonic acid gas on the other. This escaped through the lungs, no residue remaining to be carried off in the excreta. This might be proved by heating ordinary sugar when it would pass through changes like those made by it in the animal economy, and if it were perfectly pure no semblance of ash would remain. When the bee took honey it was gradually absorbed into the fluids, and passed off from the organization of the bee through the breathing apparatus. When he said honey, from whatever source it might be obtained, it always contained a smaller or larger amount of pollen, which was of nitrogenous substance, and would contribute a small amount to the bowels. Honey was converted into carbonic-acid gas and water. The same result followed the burning of a candle; having been consumed it would leave nothing but ash, which would be a portion of the cotton-wick to be returned to the earth whence it was taken. During the time of the burning, heat would be coming from it, and the same process took place in the economy of the bee; when sugary matters undergo oxidation by union with oxygen they pass off into the atmosphere, and heat is developed. He then proceeded to explain the internal structure of the working-bee, pointing out that it possessed five spiracles, or openings on each side of the abdomen, and two on each side of the thorax, by means of which the air was taken in. If the bee desired to produce a larger amount of heat, this could be done by the telescopic vibration of the abdomen. It was a matter of considerable interest that the large air-sacs were not possessed by the queen-bee, in which they were replaced by ovaries, or egg-vessels. The reason was very clear. The queen did not have to produce temperature—that might be left to the workers. The air-sacs of the worker are only fully distended during flight, and this distension aids, or rather renders possible, the rapid expulsion of excrementious matters at the moment the abdominal segments are drawn together by a muscular effort. The bee, bloated with effete products, and too weak to fly, can only so feebly perform the act of extrusion that its abdomen is soiled by the nauseous trail.

A cluster of bees, if fairly numerous, with an external atmosphere of 40 degrees, would, while remaining in absolute rest, oxidize sufficient honey to maintain their necessary temperature; but, supposing the surrounding air should suddenly fall many degrees, what would happen? The previous condition of restfulness would be changed for activity, and cases were not wanting in which cold, which tends up to a certain point to dormacy, becomes itself a stimulant. In animals that hybernate they remain perfectly still while the surrounding atmosphere was simply cold. As the air chilled intensely however, the breathing was quickened, and oxidation increased; so that there was generated a larger amount of heat, and that larger amount of heat screened them from the cold, and they were brought through the trial without harm. It was just the same in the case of bees. With a very low thermometer they began to vibrate their abdomens, as before stated. In the restful condition there was the oxidation of honey or saccharine substances producing carbonic acid and water, only waste. Now they had nerve (because without nerve-action there was no muscular action), and muscular waste, producing material which passes to the bowels. But suppose the cold continues and the temperature falls very much. It had been remarked that cold itself would not hurt bees; that, he thought, was simply a blunder. Cold *did* injure them, especially when the temperature became so low as to necessitate agitation in order to enable the bee to withstand it. In prolonged spells of intense severity, stores often become (especially if unnaturally placed) so cold that the bees could not touch them, and then the saccharine matters in their fluids being exhausted, they *had to draw upon their own muscular tissues, to work them into material which should be heat-producing.* That was to say, *the bee had now to oxidize herself, and for the present was converted into a carnivorous creature having to devour her own body!* Carnivorous animals in confinement receiving only tissue-forming foods, are always in a condition of unrest, pacing their dens, and in this seem only to be following an instinct by which muscular tissue may be retrograded until it becomes material for oxidation. A portion of the tissues remained which could not be got rid of thus. This must pass away through the bowels. A large quantity of phosphates and sulphates passes off into the bowels, and to these the urinary secretions are added. But while the bee was being loaded in this way another unhappy circumstance was going on—the integuments of the bee were being reduced in weight, so it became lighter and weaker; yet the bowels were getting so loaded that when the bee tried to fly it had a greater amount to carry than if it had been properly fed. Some people said bees were accustomed to hybernate, and others said they were not. The truth seemed to lie between these statements. When without brood and with the thermometer constantly at about 40° they hybernated, but with a higher or lower temperature they increase in activity. He had been speaking of wintering bees as though no brood were present. If brood were present it would be necessary to keep the temperature up, especially if it were near the time of hatching. To sum up, he inquired, what were the causes of abdominal distension, and briefly reviewed his foregoing remarks. The main causes were worry on the one hand, and starvation on the other. Some people said their bees were not starved for they had found honey in the hives, but they forgot that the bees might not have been able to get at the honey. How was abdominal distension to be prevented? Much might be done by keeping the hives dry without and properly ventilating them. Keeping the bees numerous, and screening them from loss of temperature (which meant loss of honey) and exhaustion of bee life.

☞ The French reports are to the effect that there has been much loss during the winter and spring, and also that abnormal swarming has been prevalent.

Translated by Frank Benton.

Twenty-third German Convention.

Next to the great gathering at Halle, the Twenty-third Convention of the German and Austrian Bee-Culturists held last Sept. 10th to the 13th, in Greifswald, Pomerania, is to be ranked. There were 898 present, among them many of the German masters: Dr. Dzierzon, Herren Dathe and Hilbert, Prof. Muenter and lady, Count Behr, Pastors Knoblauch and Rabbow, Herr Lehzen, and many others being among the number. After the welcome extended to all by the 1st President, Prof. Dr. Muenter, the "great master," Dzierzon, was introduced by a neat speech from Pastor Knoblauch, and greeted with three hearty cheers as well as a continued storm of applause. Then the Mayor, Herr Helfritz, bade the Association welcome as Griefswarld's guests. (Great applause.)

When the venerable master, Dzierzon, rose to open the discussion ef the first question, he was greeted a second time with enthusiastic applause. The question first discussed was:

Is the phenomenon of the preparation of food for larvæ fully explained, or is there a mystery still connected with it, and to what extent is this the case?

Dr. Dzierzon said: The food of the larvæ, judging from its never-varying color and quality, is by no means a mixture of honey and pollen, but is secreted in the body of the bee as milk is formed in the bodies of mammals, and is therefore to be looked upon as a product peculiar to the body of the bee. The food eaten by bees, pollen and honey, is completely digested, the available elements are taken up by the general mass of the blood, and the food for the larvæ is secreted by the salivary glands. Thus it might be explained that bees, without possessing a cell of pollen, could rear brood and feed the young bees with their blood, which occurrence may very likely be the reason that in the spring before the pollen-harvest begins, and when considerable brood has been started, there are so many dead bees. The speaker regretted that no physiologists were present, for they would certainly have been able to answer correctly this still dark question.

Herr Vogel, of Lehmannshœfel, agreed fully with Dr. Dzierzon, and stated as additional testimony, that brood given to a colony previously having none, would be cared for at once.

Herr Hilbert, of Maciejewo, was of the same opinion as the two speakers who preceded him, and referred to the fact that in experiments with milk and egg-feeding, too great a quantity of nitrogenous food or a lack of the same, or, what is the same thing, an over-production or a lack of larvæ-food, would be likely to be injurious.

Herr Wæchter, of Merseburg, called especial attention to the nitrogenous-holding fennel-blossom honey, and recommended in highest terms milk and egg feeding.

Dr. Dzierzon spoke again, saying that the salivary glands are the real producers of food for larvæ, which fact is seen by considering that in the spring when no pollen is at hand the bees feed their brood, yet usually when they are compelled to continue this long, they die in large numbers, weakened on account of the drain upon their blood.

"Niemand" remarks that from a strictly practical stand-point, the solving of this problem is very important; that perhaps scientific men, by comparing the results of experiments, may throw some light on this matter.

Foreign Items.

GLEANED BY FRANK BENTON.

The great exhibition of bees, hives, honey, and bee-manipulation, held under the auspices of the Royal Agricultural Society of England, and open to competitors of all nations, takes place June 30th to July 7th. Prizes to the amount of $116.14 are offered.

The 24th Convention of German and Austrian bee-keepers will be held from the morning of Sept. 7th, to the evening of Sept. 11th, in Prague, Austria. This is the celebrated *Wanderversammlung* of the German and Austrian bee-culturists, and, of course, a grand time will be had. It is proposed to make the apiarian exhibition held at the same time, an international one. Applications for space should be made previous to August 25th.

Bernard de Gelieu, of Colombier, Switzerland, a well-known and often-quoted bee-keeper, died last Januarg, at the age of eighty-one. *Que la terra lue soit legere!*

Business Matters.

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☞ A line will contain about eight words, fourteen lines will occupy an inch of space. Advertisements must be received by the 20th, to insure insertion.

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972 & 974 West Madison St. CHICAGO, ILL.

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When changing a post-office address, mention the *old* address as well as the new one.

We send the JOURNAL until an order for discontinuance is received and all arrearages are paid.

We do not send goods by C. O. D., unless sufficient money is sent with the order to pay express charges both ways, in case not taken from express office.

In consequence of the dearth of small currency in the country, we will receive either **1, 2 or 3 cent stamps,** for anything desired from this office.

Strangers wishing to visit our office and Museum of Implements for the Apiary, should take the Madison street-cars (going west). They pass our door.

Additions can be made to clubs at any time at the same rate. Specimen copies, Posters, and Illustrated Price List sent free upon application, for canvassing.

Remit by post-office money-order, registered letter or bank-draft, payable to Thomas G. Newman & Son, so that if the remittance be lost it can be recovered.

We will send a tested Italian Queen to any one sending us **FIVE** subscribers to the AMERICAN BEE JOURNAL with **$7.50.** The premium Queens will in every case be tested, but not sent till after July 1st.

Seeds or samples of merchandise can be mailed for one cent per ounce. Printed matter one cent for every two ounces. These must be tied up; if pasted, they are subject to letter postage. *Don't send small packages by express, that can just as well be sent by mail.*

For the convenience of bee-keepers, we have made arragements to supply, at the lowest market prices, Imported or tested Italian Queens, Full Colonies, Hives, Extractors and anything required about the Apiary. Our Illustrated Catalogue and Price List will be sent free, on application.

We have gotten up a "Constitution and By-Laws," suitable for local Associations, which we can supply, with the name and location of any society printed, at $2 per hundred copies, postpaid. If less than 100 are ordered, they will have a blank left for writing in the name of the Association, etc. Sample copy will be sent for a three-cent postage stamp.

Our answer to all who ask credit is this: We sell on **small** margins, and cannot afford to take the risks of doing a credit business. If we did such a business, we should be obliged to add at least 10 to 20 per cent. more to our prices, to make up for those who would never pay, and to pay the expenses of keeping book-accounts with our customers—this we know our **Cash** customers would not think to their advantage.—This rule we must make general in order not to do injustice to any one. The cash system gives all the advantage to cash customers, while the credit system works to their injury. In justice to all we must therefore require **Cash with the order.**

☞ On our desk is one of the 5 lb. Honey Pails as used by Ch. Dadant & Son, with a nice label. This is a very convenient way for handling extracted honey, and when candied it can so easily be liquefied.

☞ Mr. Muth has gotten up a small Extractor for Langstroth frames of the same shape as his Standard, only shorter, without cover, and wooden bottom to receptacle for honey in the bottom of the can. These he sells for $9.00. He furnishes this Extractor with a crank like that on a coffee-mill for $8.00.

THE HIVE I USE.—This is a pamphlet of 16 pages, giving a description of the hive used by Mr. G. M. Doolittle; it is re-published from the BEE JOURNAL for March, for the convenience of the many who desire to get the particulars therein given, either for reference or making the hive for their own use. It can be obtained at this office: price 5 cents.

A NEW BOOK ON THE HORSE.—Horsemen will be interested in knowing that a cheap and valuable "Treatise on the Horse and his Diseases," has been issued. It contains 35 fine engravings showing the positions and actions of sick horses better than can be taught in any other way. It gives the real, essential information relative to each disease, as well as the cause, symptoms and best treatment. Has a table giving the doses, effects and antidotes of all the principal medicines used for the horse, and a few pages on the action and uses of medicines. It also has a large collection of valuable receipts, many of which are worth several times the cost of the book. Published by B. J. Kendall, M. D., Enosburg Falls, Vt. May be obtained at this office.

Honey Markets.

CHICAGO.

HONEY.—White clover, put up in single-comb boxes, in slow demand. Prices paid for such, 10@13c. When more than 1 comb in a box, 9@10c. Dark, in the comb, slow sale at 8@10c. Extracted Honey, white, 8@9c.; dark, 6@7c.

BEESWAX.—Prime choice yellow, 24@26c; darker grades, 15@20c,

NEW YORK.

QUOTATIONS.—Best fancy white comb honey, 11@13c; extracted, new, 7@8c; buckwheat comb honey, 8@10c; beeswax, prime, 25c.

H. K. & F. B. THURBER & CO.

CINCINNATI.

COMB HONEY—In small boxes, 10@12c. Extracted, 1 lb. jars, in shipping order, per doz., $2.50; per gross, $28.00. 2 lb. jars, per doz,, $4.50; per gross, $50.00.

C. F. MUTH.

CALIFORNIA.

Quotations for comb honey are: White, 6@7c.; dark to medium, 5@6c.; extracted, 4@5c.

Compared with last season our honey crop will be small, and in some localities a failure, owing to heavy frosts, with absence of rain. We have letters from San Barnadino Co., Cal., stating that on May 1st they were feeding bees, and never having before done so in fourteeu years.

STEARNS & SMITH, 423 Front St., San Francisco, Cal.

Local Convention Directory.

1879. *Time and Place of Meeting.*

Oct. 7.—Central Kentucky, at Lexington, Ky.
14.—Albany County, N. Y., at Albany, N. Y.
15—Central Michigan, at Lansing, Mich.
21.—National Convention, at Chicago, Ill.
23, 24.—Southern Kentucky, at Edmunton, Ky.

1880.
Feb. 11—Northeastern, at Utica, N. Y.

☞ In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

☞ J. W. Newlove's price list of apiarian supplies. He is located at Columbus, O.

Bingham Smoker Corner.

Otsego, Mich., May 10, 1879.

A. I. ROOT, Medina, O.—*Dear Sir:* Seeing that in last *Gleanings* it is stated that the "Scovell smoker is no infringement," I wish to say that there must be a great mistake somewhere. The AMERICAN BEE JOURNAL pronounced it "an infringement," and I sent for a smoker. I think it is not only an infringement, but a substantial copy of my smoker. I trust you will do your readers the favor and kindness of publishing my fourth claim (you have it I believe) or this letter, and greatly oblige me.

Very truly, T. F. BINGHAM.

Los Gatos, Cal., April 25, 1879.

Enclosed find order for honey knife with cap-catcher. I received of you two years ago one of your standard smokers, which has had constant hard usage, and is still good for many years. I could not keep bees without it. I would not take twenty dollars for mine if I could not get another. I have tried others, but none compare with yours.

S. S. BUTLER, M. D.

Edgefield Junction, Tenn., May 1, 1879.

I have used and sold the Bingham bee smoker for the past three years, in middle Tennessee, and find they have no equal. His honey knife is also the best I have ever used. Out of twenty hives I lost only two last winter, which I attribute to my own neglect. My bees are all doing well; had one swarm on the 25th and one on the 26th ult.. Have managed my bees according to Mr. Bingham's advice for the last three years, and consider his system the best. We consider the AMERICAN BEE JOURNAL the best authority extant for the culture and management of bees.

J. A. REMLEY.

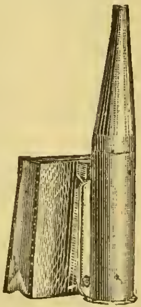
Tuscaloosa, Ala., May 11, 1879.

Send me by mail two Bingham smokers. I would as soon think of being without my meals as doing without a Bingham smoker. F. P. TURNER.

SOMETHING OLD!

OLDEST AND BEST!

The old, reliable, original, direct-draft Smoker.



This Smoker is so perfect that it has never been improved. The more exact the copy the better the Smoker and the plainer the infringement. Beware of all new direct-draft Smokers — Bingham owns all there is of value in them. Every seller and user is liable. Our Smoker has been in use two years longer than any bellows Smoker now made. If you want the best Smoker and no further expense, buy only the Bingham. If you want to encourage invention and not theft, buy only the Bingham.

Standard size, 2-inch	$1 50
Little Wonder, 1¾-inch	1 00
Extra large, 2½-inch	1 75

Sent free, per mail, on receipt of price. A discount of 12 per cent. made from retail rates on all smokers sent by express with or without one or more Bingham & Hetherington patent Honey Knives.

Address, **T. F. BINGHAM**, Otsego, Mich.

ITALIAN QUEENS.

That there is a vast difference in the practical, desirable qualities of Italian bees, is a fact well known by all who have bred them on a large scale. We have for many years past kept this point in view, and have perfected a strain of bees that excel as honey-gatherers, at the same time securing the desirable quality of hardiness that enables them to safely pass our coldest winters. We shall continue to rear and sell choice queensfrom this strain of Italian blood, during the season of 1879, at the following reasonable prices. We ship no dollar queens until they are fertile and begin to lay.

Untested queens,	each		$1 00
" "	per half dozen		5 75
" "	per dozen		11 50
Warranted "	each		1 50
" "	per dozen		15 00
Tested "	each		2 50
" "	per dozen		25 00
Selected tested queens, each			3 50
Imported queens, each			4 50
Italian 7 frame nuclei, with dollar queens, each			3 00
Ditto.	ditto.	per dozen	30 00
Ditto.	ditto.	with tested queen	4 50
Ditto.	ditto.	with imported queen	6 50

At above prices *we pay express charges on Nuclei* to any point reached by the American Express Company, and on 3 or more queens, to any point reached by the American, United States, Adams, or Union Express Companies.

☞ For prices of smokers, knives, comb foundation, honey extractors, wax extractors, prize boxes, etc., see May *American Bee Journal*, or send for our descriptive 40-page Catalogue. Send money by post-office order, bank draft, registered letter or express, and address your orders to

HERBERT A. BURCH & CO.,
1-tf South Haven, Mich,

BEFORE

purchasing colonies with imported queens, or home-bred queens, Italian Queens, COMB FOUNDATION, and implements in bee-culture, write for circular with prices, and sample of comb foundation free.

Our foundation for beauty and purity cannot be excelled.

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The sample of foundation is the nicest that I have ever seen, take all points together.
G. M. DOOLITTLE, Borodino, N. Y.

Your foundation is O. K.—it looks brightest of them all. Send me 200 lbs. more.
CHAS. F. MUTH, Cincinnati, O.

We have scoros of similar praises.

CHAS. DADANT & SON,
Hamilton, Ill.

PURE ITALIAN QUEENS.

I can furnish pure Tested Queens, in June, for $2.00; Untested, $1.00; per dozen, $11.00. My queens are all bred from imported mothers. Also, a nice article of Comb Foundation at a very low price. Send for sample.

A. F. STAUFFER,
Sterling, Whiteside Co., Ill.

FOR CANADA.

Bee-Keepers in Canada can, by ordering

APIARY SUPPLIES,

Queens, etc., from us, save long freights, duties, custom-house charges and annoyances. Our queens and supplies are the best that can be produced. Catalogue sent free. W. G. WALTON, Hamilton, Ont.

IMPROVEMENT
IN
BARNES' FOOT-POWER SAWS.

We have recently made a great improvement in the Combined Machine, so that the circular saw runs at least one-half stronger with the same effort of the operator. All that is necessary to change in the old-style machines, is to substitute a 6¼ inch band-wheel on the mandrel in place of the 3¼ inch one now used. We are desirous that all should have this improvement, and offer it at cost, hoping that all will get it. We will send the wheel by mail post-paid for $1.64, or by express for $1.00. There is no consideration of profit to us in offering the improvement at this price, except that it is to our interest that every machine should please. Very respectfully,

W. F. & JOHN BARNES, Rockford, Ill.

Extract from letter from Wm. B. Snider, Dallas City, Ill., May 6th, 1879:

"MESSRS. BARNES: I am well pleased with the new improvement of the large pulley on the end of the mandrel. I can saw as much 2 inch stuff, and as fast, as I could ⅞ inch with the other pulley."

☞ The new attachment can be seen in use at the office of the AMERICAN BEE JOURNAL.

THE BLESSED BEES,
BY JOHN ALLEN.

Published by G. P. PUTNAM'S SONS, 182 Fifth Avenue, New YORK.

Price, post-paid, $1.00.

This Romance of Bee-keeping has received wide commendation for its literary excellence and its contagious enthusiasm.

I scarcely looked up from the volume before I had scanned all its fascinating pages.—*Prof. A. J. Cook.*

It possesses such a fluent style that its perusal was a great pleasure. Its contents cover all the ground in bee-keeing, from "Beginning" to "Marketing."—*American Bee Journal.*

The book is beautifully written, and commanded my undivided attention from the beginning to the end. In justice to your inexperienced readers, I think you ought to have called it "The Romance of the Blessed Bees."—*Rev. L. L. Langstroth.*

It has the fascination of a novel. Its English is so simple, terse, and good, that it has given me real delight.—*Mrs. Helen Hunt Jackson ("H. H.")*

Mr. Allen's book is a very clear and precise account of the way in which he succeeded in bee-keeping.—*Atlantic Monthly.*

The subject is deprived of all dryness and made as interesting as a story, by an accompanying narrative of personal effort, investigation, and industrious application.—*Harper's Magazine.*

His method of procedure is told in simple, beautiful language, and the story is more fascinating than many a novelette with greater pretensions.—*Christian Register.*

* * * These chapters cannot fail to aid in diffusing a knowledge of bee-culture, and they will give, moreover, great pleasure to many readers who have not the remotest anticipation of undertaking bee-culture.—*Denver Tribune.*

The book is written in a clear, concise manner, and will hold the reader spell-bound until he has perused the last page.—*Bee-Keepers' Exchange.*

It is not only valuable, but interesting as a story.—*Detroit Post and Tribune.*

Conveys a good deal of information in a pleasant way.—*Cultivator and Country Gentleman.*

So delightfully written that no one can fail to enjoy it.—*N. Y. Churchman.*

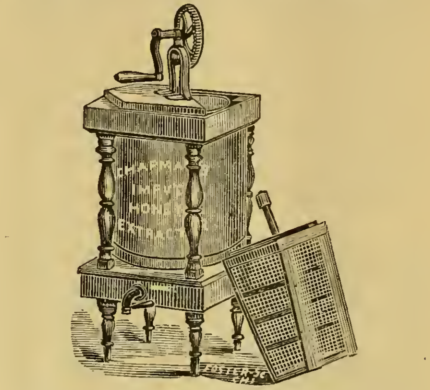
For sale at the Bee Journal Office.

Golden Italians.

We have them in their purity. Circulars and prices free.

J. M. BROOKS & BRO.,
4-9 Box 64, Columbus, Ind.

Good Extractors, Cheap!



Send me **TEN DOLLARS**, and the size of your frames, and I'll send you the best Extractor made (a premium machine), and a curved-pointed honey knife with it. *I want to sell out.*

6-tf F. W. CHAPMAN, Morrison, Ill.

FLAT-BOTTOM COMB FOUNDATION.—High side-walls, 4 to 16 square feet to the lb. Circular and samples free.

J. VAN DEUSEN & SONS, Sole Manufacturers,
Sprout Brook, Mont. Co., N. Y.

LANGSTROTH HIVES,

Prize Section Boxes and Frames at Low Prices. Any other pattern of Hive made to order. Send for Price List, to **DUNN & STEVENS.**

Ref. { First National Bank, MONMOUTH, ILL.
{ T. G. McGaw, " " 3-6

ITALIAN QUEENS—All bred from Imported Mothers of my own importation. Dollar and Tested Queens from 1st April to 1st November. Full Colonies and Nuclei; Bee-Keepers Supplies of all kinds; Comb Foundation, etc.

6-tf PAUL L. VIALLON, Bayou Goula, La.

FOR IOWA AND MINNESOTA.

Purchase your tickets via THE IOWA ROUTE, composed of the Burlington, Cedar Rapids & Northern, and Minneapolis & St. Louis Railways. The only line running Through Pullman Palace Sleeping Cars between St. Louis, Burlington, and all points on the line of the Burlington, Cedar Rapids & Northern Railway and Minneapolis.

A full line of Excursion Tickets will be sold at principal stations for the noted summer resorts of MINNESOTA, from June 1st to October 15th, at a LARGE REDUCTION from regular rates. Tickets good for 60 days from date of sale, but in no case longer than October 31st, following date of sale. The Minnetonka Lake Park Association have bought and improved 225 acres of land, in which are located fine hotels, which will accommodate 3000 people. Besides the sources of amusement incidental to the lake, the Park Association will hold a Musical Convention July 28th to August 1st; Grand Temperance Congress of Iowa, Minnesota and Wisconsin, August 2d to 5th; Sabbath School Assembly, August 6th to 20th.

Don't fail to go and enjoy the attractions offered by Minnesota. B. F. MILLS, Ass't G. T. Agent.
C. J. IVES, Superintendent.

WORKER COMB.

Twenty hives filled with good worker comb, in frames. One dollar per hive.

D. C. MILLETT, Holmesburg, Penn.

BEFORE

purchasing colonies with imported queens, or home-bred queens, Italian queens, COMB FOUNDATION, and implements in bee culture, write for circular with prices, and sample of comb foundation free.

Our foundation for beauty and purity cannot be excelled.

TESTIMONIALS.

The sample of foundation is the nicest that I have ever seen, take all points together.
G. M. DOOLITTLE, Borodino, N. Y.

Your foundation is O. K.—it looks brightest of them all. Send me 200 lbs. more.
CHAS. F. MUTH, Cincinnati, O.

We have scores of similar praises.

CHAS. DADANT & SON,
Hamilton, Ill.

An Extractor, as good as the best, and not costing more than a Bee-Hive. Send on $2.50 and receive the fixings complete for inserting into a common barrel, and, by fitting a lid on the barrel, you will have an instrument as handy and efficient as any that are made. It was used with entire satisfaction last season. Any size at the same price. Always send outside measurement of frames when ordering. Complete printed instructions are sent along with the fixings; also, an appendage for extracting pieces of comb, for 50c., if ordered. WM. THOMSON,
5-6 1051 Grand River Ave., Detroit, Mich.

LOOK! LOOK!

at our Circular and Price List before ordering your

APIARIAN SUPPLIES.

We sell

HIVES, FRAMES, SECTION BOXES, GLASS, TIN SEPARATORS, HONEY AND WAX EXTRACTORS, SMOKERS AND KNIVES.

Also, the very best, pure beeswax

COMB FOUNDATION,

Either lozenge-shaped or flat-bottomed, in any quantity and at the lowest prices. Our implements are of the latest approved patterns. Satisfaction guaranteed. Send now for price list and sample of the thin flat-bottomed Foundation for Surplus Boxes, to

W. D. WRIGHT,
5-tf Knowersville, N. Y.

Cheap Hives.

See our "ad." in JOURNAL for December, January, February and March.

CHEAP SECTIONS.

Following prices are for any size up to 6x6:

Plain, sawed smooth, per 1,000	$4 50
" sandpapered, "	5 50
Dovetailed, sawed smooth, per 1,000	5 50
" sandpapered, "	6 50
Lewis' Sections (all in one piece), sandpapered, per 1,000	7 50

Lewis' Honey Boxes and Dovetailed Honey Boxes, very cheap, all of excellent material and Workmanship. All Sections grooved for foundation. No charge for boxing. Discount on large orders.

☞ Send for Price-List.

LEWIS & PARKS,
successors to G. B. LEWIS, Watertown, Wis.

ITALIAN BEES.

50 Colonies of Italian Bees for sale cheap.
3-5 WM. J. ANDREWS, Columbia, Tenn.

L'APICULTEUR. is the title of the French Monthly Journal devoted to bee-culture, edited and published by Mons. H. Hamet, Rue Monge 59, Paris. Price 7 francs.

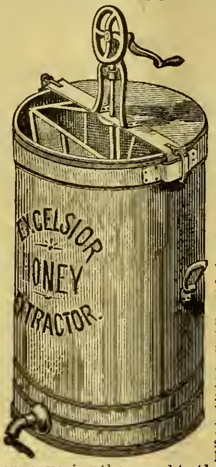
COFFINBERRY'S EXCELSIOR HONEY EXTRACTOR,

From $8.00 to $14.00.

Sizes and Prices:

No. 1.—For 2 Langstroth frames, 10x18 inches...	$8 00
" 2.—For 2 American Frames, 13x13 inches....	8 00
" 3.—For 2 frames, 13x20 inches or less........	12 00
" 4.—For 3 " " " "	12 00
" 5.—For 4 " " " "	14 00

THE EXCELSIOR HONEY EXTRACTOR combines all the advantages of other Extractors, and is the *cheapest* thoroughly practical machine ever yet made.



It is made entirely of metal, and is the best Honey Extractor in the market. It is light, but has attachments for fastening down to a platform. It can be instantly taken to pieces for cleaning, having no screws to take out, nor heavy pieces to lift.

Some of its advantages are as follows: The lower end of the comb basket shaft does *not* revolve in the honey below, even when 60 or 70 lbs. may be there!

The Comb Basket having vertical sides, insures the extracting power alike for top and bottom of frames.

An over-motion and strong gearing is essential to both *ease* of operation and *effective* work.

It has a small comb-holder for extracting pieces of comb or partly-filled sections.

Nos. 3, 4 and 5, have neatly-fitting covers, movable sliding sides to the baskets, and movable strainers covering the canal to the faucet, whereby the last drop of honey can be drawn off without a particle of sediment.

A CHEAPER MACHINE

being called for, I have made one for the Langstroth frame, and one to take the American frame, to sell at **$8.00.** These have no covers or strainer, and are much smaller than the $12.00 and $14.00 sizes, but for the frames named are equal to the others for effective work, and are the **best** cheap extractor made.

C. C. COFFINBERRY, Chicago.
Or AMERICAN BEE JOURNAL Office.

THE VOICE OF MASONRY AND FAMILY MAGAZINE FOR 1878.

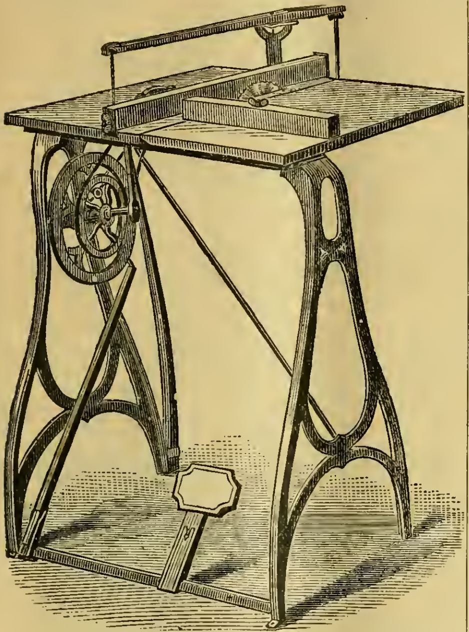
Will be edited as heretofore; will contain 960 pages of Masonic and Family Literature: will be finely illustrated, and will furnish a greater variety of articles from a greater number of contributors than has appeared in any preceeding volume. No proper efforts will be spared in making it, beyond question, the most attractive and valuable volume of a Masonic and literary magazine ever published. Published monthly, at $3.00 per annum, in advance. Single copy, 30 cents, Address JOHN W. BROWN, Publisher, room 12, 182 S. Clark St., Chicago, Ill.

COMBINED CIRCULAR AND SCROLL SAW,

FOR HIVE, BOX AND FRAME MAKING.

J. S. Woodburn, Newville, Pa., after two years' use, says :

"I find myself quite equal to cutting out from 12 to 15 hives per day. Am now engaged on a job of 100 hives, 1000 frames, 5000 sections and 500 broad frames, and expect to accomplish it all on the Combined Circular and Scroll Saw."



Above cut shows the Combined Circular and Scroll Saw. The cut below shows table arranged for box and frame work.

Price of the Circular and Scroll Saws combined...	$40 00
" Boards with gauges for frame and box work	75
" Cutter heads, each........................	1 50
" Circular Saw without Scroll Saw Attachment	35 00

The following cut shows a thin board ¼ inch thick placed on the table with a rib fastened to it with brads. This rib is of the same width as the cutter and is placed from the cutter the width of the cutter. This rib and board are so easily made that we do not furnish them unless specially ordered. The price of them is 75 cents. If different width cutters are used, a board with a corresponding rib can be made for each cutter. This way of making the joints for boxes is largely used by bee-men, fruit men, and manufacturers of many articles in different lines of trade.

When ordering cutters for this box-work, please mention for what use they are wanted, besides giving width, and we will send those that are most suitable.

This is a cheap, effective machine, and, with its attachments, combines all that is wanted by the apiarist to successfully and economically manufacture all his supplies in hives, boxes, frames, etc. Hundreds of bee-keepers are now using them successfully. We will ship them

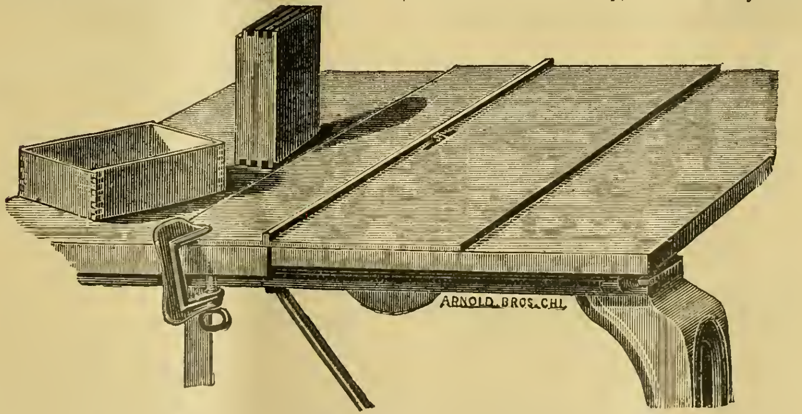
ON TRIAL IF DESIRED.

On receipt of $5.00 with the order, we will ship this machine on trial, the balance of the bill we will send to your express agent for collection, with instructions to hold the money until ample time is had to test the machine.

If the machine is not satisfactory, he will return the money when you deliver to him the R. R. receipt, showing re-shipment, with no back charges. We will then return all of the $5.00 not used to pay freight and collection charges.

Strangers to us and our machines, ordering on these conditions, can by risking a very small amount, secure to themselves the privilege of returning the machine should it not merit their approval.

By trial we do not mean simply an examination at the freight or express office, but you may take the Machine to the work-shop, and test it fully.


ARNOLD BROS. CHI.

Showing the Combined Machine, Arranged with a Cutter-Head for making Tongue and Groove Joints for Boxes Drawers, Frames, Etc.

W. F. & JOHN BARNES, Rockford, Winnebago Co., Ill.

ITALIAN QUEENS,

1879.

Price, April, May and June.... ....each, $3 00
" July, August and September........ " 2 00

STANDARD OF PURITY.

All Queens guaranteed to be of good size, vigorous and producing workers large and uniformly marked with three distinct yellow bands, of fine golden color. We shall have a shipment of fine *Tested* Queens, from Italy, in April, selected for our Apiary.

No Circulars. [2-tf] A. F. MOON, Rome, Ga.

Italian Queens or Colonies.

Eighteen years experience in propagating Queen Bees from imported mothers from the best districts in Italy. Persons purchasing Queens or Colonies from me will get what they bargain for. Send for circular.

WM. W. CARY,
3-tf Colerain, Franklin Co., Mass.

DUNHAM
FOUNDATION MACHINE!

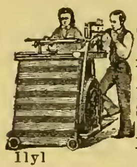
And also everything of any practical value in the Apiary: Hives, Sections, &c. Samples of Foundation made upon the above machine FREE. Circulars sent on application.

FRANCES DUNHAM,
3-8 Depere, Brown Co., Wis.

EGGS! EGGS!
FOR HATCHING.

Packed in new baskets for any distance, from First Premium Brown Leghorn and Black B. R. G. Bantams, mated for me by I. K. Felch, and purchased of him, who says they are as good as money *can* buy of him. A fair hatch guaranteed or order duplicated, at $2.50 per 13, or $4.00 for 26.

4-5 C. W. CANFIELD, Athens, Bradford Co., Pa.



JOYFUL News for Boys and Girls! Young and Old!! A NEW INVENTION just patented for them, for Home use! Fret and Scroll Sawing, Turning, Boring, Drilling, Grinding, Polishing, Screw Cutting. Price $5 to $50. Send Stamp and address

EPHRAIM BROWN, Lowell, Mass.

11y1

Queens. 1879. Queens.

We shall be able to furnish Italian Queens after May 15th, at following prices:

Choice Tested Italian Queens $2 50
Warranted " " 1 50
Queens bred from Imported Mothers, but not warranted... 1 00

FOUL BROOD

will be cured with our "Foul Brood Remedy." Cure warranted. Write for particulars.

4tf MILLER & HOLLOM, Kewaskum, Wis.

FOR QUEENS,
BEES, HIVES,

and all kinds of Supplies at bottom prices, ask for Price List.

B. B. BARNUM,
Louisville, Ky.

For Sale!

An Apiary in a choice location, Full Colonies, Queens, Bingham Smokers, Bingham & Hetherington Knives, Extractors. Fancy Spruce Sections and Boxes, Glass, Comb Foundation, Bee-Veils, Bee Feeders, &c.

The Turner Raspberry

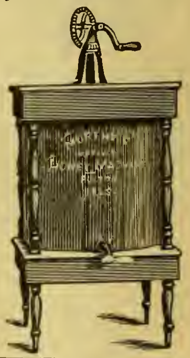
has no equal either as a Garden or Market Berry, or as a

HONEY PRODUCER.

Send address for Circular and Price List, to

JAMES HEDDON,
DOWAGIAC, MICH.

Murphy's Honey Extractor.



Send for Murphy's Price List of Honey Extractors for 1879. The

Only American Extractor

that was awarded a

Medal & Diploma

by the regularly appointed judges at the Centennial Exposition of 1876. Also,

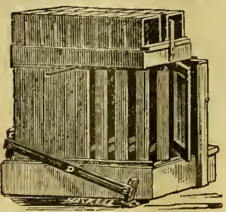
SECTION

Honey Boxes

of all kinds, at low rates.

Address,
R. R. MURPHY,
Garden Plain,
5-7 Whiteside Co., Ill.

ARMSTRONG'S
IMPROVED
CENTENNIAL BEE HIVE.



This hive gives entire satisfaction wherever it has been used. It is very simple in construction, and for ease and rapidity in manipulating, out-door wintering, &c., it is the I. X. L.

Descriptive circulars sent free to all.

Address,
E. ARMSTRONG,
5-7 Jerseyville, Ill.

ITALIAN QUEENS,

Bred from IMPORTED and HOME-BRED mothers. *Young, beautiful*, and *good* as the *best*. Safe arrival guaranteed. Tested, each $2.00; warranted pure, each $1.25. Address,

4-6 T. N. HOLLETT, Pennsville, Ohio.

Look Here.

HART'S IMPROVED

LANGSTROTH HIGH-PRESSURE BEE HIVE!

After about fifteen years experimenting, simplifying and utilizing, I have succeeded in arranging a hive that I am confident possesses more advantages for less money than any other yet offered, and as it is patented—by letters dated 1868 and 1872—will state some of the advantages: It is double and triple walled, *one thickness tarred roofing paper*, side opening, fast or loose bottom, adjustable portico and honey-board, can be used single or two-story, long, low brood-chamber, or compounded to suit any sized swarm, either for comb or extracted honey, breeding colonies or for a non-swarmer. Now, after testing my hive thoroughly, I wish to introduce it to the bee keepers of the United States, either by selling territory very cheap, or by responsible agents, giving references, to manufacture and sell on a royalty. By sending 25 cents in stamps you will get a pamphlet of 50 pages, describing it more particularly, and giving much useful matter pertaining to my plan of working, &c. **A. H. HART.**

Appleton, Wis., March 12, 1879.

1879. Queens!--Queens! 1879.

ITALIAN QUEENS!
CYPRIAN QUEENS!
HUNGARIAN QUEENS!

During the past eighteen years we have been

HEAD-QUARTERS!

for Italian Queen Bees, and now we have added the Cyprian and Hungarian bees to our stock. To be up with the times, we shall continue to sell

DOLLAR QUEENS!

With our long experience in the Queen-rearing business, we can warrant all our Queens to be purely fertilized, and we also guarantee safe arrival by *mail* or *express*. Parties intending to purchase Queens the coming season should read our

Special "Queen Bee" Circular!

giving instructions for introducing Queens safely, and containing other information valuable to bee-keepers. All bee-keepers should read our eighteenth annual circular and price-list of apiarian supplies. Both circulars sent free.

PRICES OF QUEENS.

Tested Queens, each	$2 00
" " per dozen	20 00
Warranted Queens, each	1 00
" " per dozen	11 00

IMPORTED QUEENS.

Cyprian, each	$10 00
Hungarian, each	5 00
Italian, each	4 50

H. ALLEY,
Wenham, Essex Co., Mass.

LAND IN FLORIDA.

640 ACRES OF TIMBER LAND in Northern Florida, about 50 miles south of the Georgia Line, 25 miles west of Tallahassee, and near the Apalachicola river. Title clear and unincumbered. Will trade the above described land, either a part or the whole, for a farm or an apiary in some North-western State, at a fair valuation for both. For particulars, giving a description of what you wish to offer in exchange, addresss, FLORIDA LAND, care AMERICAN BEE JOURNAL, Chicago.

SPERRY & CHANDLER'S

NORTH STAR HIVE.

There are now over 1,000 of these Hives in use in different parts of the United States, and wherever tried they are pronounced the best Hives before the public for all general and special purposes. We are now prepared to promptly fill all orders for the North Star, or Improved Langstroth, with our patent Manipulating Side. Samples of surplus honey taken from the North Star, as also our hives in use, may be seen at the American Bee Journal office. Send for illustrated circular—correspondence solicited.

Address SPERRY & CHANDLER,
974 W. Madison Street,
Or AMERICAN BEE JOURNAL, Chicago, Ill. 8-tf

GEORGE GRIMM,

OF

JEFFERSON, WISCONSIN,

hereby respectfully gives notice to the public. that his Circular and Price-List of Italian Bees for the year 1878-9, is ready, and that he is selling at his usual *low* prices. 10-6

Foundation Machines.

12 inches wide	$40 00
9 inches wide	30 00
6 inches wide	25 00

Every machine warranted. On receipt of 10 cents, I will send a sample of the foundation made by the machine. Machines for drone or worker comb at the same price.

12-tf JOHN BOURGMEYER, Fond du Lac, Wis.

Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send you a sample copy of our

Monthly Gleanings in Bee-Culture,

with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Artificial Comb, Section Honey Boxes,** all books and journals, and everything pertaining to Bee Culture. *Nothing patented.* Simply send your address on a postal card, *written plainly*, to A. I. ROOT, Medina, O.

Material for Prize Boxes,

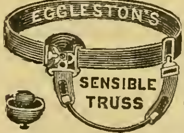
Ready to nail, sawed from white basswood or pine, one side planed smooth by machine, to fit glass 6x6 inches or less:

In lots of 1,000 to 3,000, per 1,000	$6 00
" more than 3,000, per 1,000	5 50

Material for Cases, according to size; material for California Section Boxes, sides put together, thickness of sides, top and bottom pieces ¼ inch, nailing box included, to take glass (on the ends of boxes), 6x6 inches or less, for 500 frames or more, at the rate of $10.00 per 1,000. SEYMOUR RUGGLES,
5-tf Saratoga Springs, N. Y.

Bees!---1879.---Bees!

Full Colonies, Nuclei and Queens Cheap. Supplies furnished. Satisfaction guaranteed. Write for particulars. S. D. McLEAN & SON, Culleoka, Maury Co., Tenn. 2-7



THIS NEW

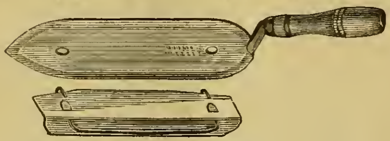
ELASTIC TRUSS

Has a Pad differing from all others, is cup-shape, with Self-Adjusting Ball in center, adapts itself to all positions of the body, while the BALL in the cup PRESSES BACK the INTESTINES JUST AS A PERSON WOULD WITH THE FINGER. With light pressure the Hernia is held securely day and night, and a radical cure certain. It is easy, durable and cheap. Sent by mail. Circulars free. **Eggleston Truss Co., Chicago, Ill.,**

8y1

Bingham & Hetherington

HONEY KNIVES!



Are used plain, if the combs are held upright, and with the cap-catcher, if laid on a table. They are not *like any other* honey knife ever made. They are superior in finish and temper, and do much more and better work. *No one can afford to be without one.* Plain, $1.00 ; with movable cap-catcher, $1.25. Send for Circular for dozen rates for Knives and Bingham Smokers to BINGHAM & HETHERINGTON,
Abronia, Allegan Co., Mich.

Bee-Keepers' Supplies!

I shall continue to sell, at reasonable rates, a large variety of Bee-Keepers' Supplies, such as

MUTH'S ALL-METAL HONEY EXTRACTOR,

UNCAPPING KNIVES,

WAX EXTRACTORS,

LANGSTROTH BEE HIVES,

SECTIONAL BOXES,

SQUARE GLASS HONEY JARS,

to hold one and two pounds each, with Corks, Tinfoil, Caps and Labels, ½ lb. Tumblers, Glass Fruit Jars, &c.

COMB FOUNDATION,

BEESWAX, GLOVES, VEILS, STRAW MATS, ALSIKE CLOVER SEED,

as well as a great assortment of Garden and Field Seeds, &c. For further particulars address,

CHAS. F. MUTH,

2-tf 976 and 978 Central Ave., Cincinnati, Ohio.

American Bee Journal and **Bee-Keeper's** Magazine sent at club rates to single subscribers. Barnes' Foot-Power Saws, for hive making, Extractors, Smokers, and Bee Literature of the day supplied. Send for Circular.
5-6 E. H. WYNKOOP, Catskill, N. Y.

Oesterreische Bienen-Zeitung.

Allgemeines Organ fur Bienenzucht, Organ der Gesellschaft der Bienenfreunde in Bœhmen. A monthly paper devoted exclusively to bee-keeping. Price, 1f. 20c.—Austrian value. 60c. a year. The cheapest and largest Austrian bee journal ; contributors are the best practical writers on bee-keeping in all parts of the world. The only German journal that furnishes reports and items from the American and English bee papers. Addresses to be sent to RUDOLF MAYERHŒFFER, Publisher of the Oestern Bienen-Zeitung, Praga Neustadt 747.

J. OATMAN & SONS'

CORNER.

We wish to inform our friends that we are producing

COMB FOUNDATION,

in large quantities and of superior quality. Our facilities are such that we can supply in any quantity desired on short notice, and all favoring us with their orders shall have prompt and satisfactory attention. In at least one point our foundation excels that produced by any manufacturer in the country. Will supply in any quantity wanted, or size desired, at the following prices :

1 to 20 lbs., per lb.	55c.
25 to 45 " "	53c.
50 to 90 " "	52c.
100 to 400 " "	50c.
500 to 900 " "	48c.
1000 lbs. and upwards, special figures.	

If ordered in lots of 5, 10, 15, 25, 50 or 100 lb. boxes, 8x16½ or 12x18, ten per cent. may be deducted from the above figures.

Wax to be made into Foundation.

Lots of 100 lbs. and upwards sent us, with 12½c. per pound, freight pre-paid, will be made up and cut to any size, and delivered on board cars here.

Italian Queens.

The superiority of the Queens reared in our apiaries is so well established, we shall not here detail their merits ; but to those wishing honey-producing stock, combined with prolificness, we will say they are not beaten. Our arrangements for breeding largely are complete, and we shall take pleasure in booking *your order now.* Those desiring Queens among the first sent out, will do well to order at once.

Dollar Queens, each	$1 00
" " per doz.	11 50
Warranted Queens, as good as ordinary Tested, each	1 50
Ditto ditto ditto per doz.	15 00

Langstroth and Modest

BEE HIVES,

for the million, at prices to suit the times.

Honey Boxes and Sections,

plain and dovetailed, are large specialties, and if you desire a nice job, at a fair price, we can accommodate you.

Extractors, Smokers, Bee Veils,

and everything needed in the apiary, supplied at the lowest living rates. Order your goods early, remembering that *large* yields of honey are only obtained by having *everything ready* for securing it.

J. OATMAN & SONS,

4-tf Dundee, Kane Co., Ill.

1865.— **THE** —1879.

HONEY HOUSE.

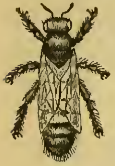
C. O. PERRINE, 54 & 56 Michigan Av., Chicago.

As a Manufacturer of

COMB FOUNDATION,

I can say my goods have given entire and universal satisfaction. The ruling low prices were made by me, and any one desiring any considerable quantity would do well to consult me before buying elsewhere.
☞ Market price for Beeswax.

Baker & Co. DESIGNERS AND PHOTO ENGRAVERS ON WOOD.
COR. CLARK & MONROE STS. CHICAGO.
DEALERS IN ENGRAVING TOOLS & ENGRAVERS OUTFITS.
ORDERS BY MAIL SOLICITED.



Pure Italian Queens and Colonies

For Sale for 1879.

—o—

The best is the cheapest at any price. Circular sent free. Address, D. A. PIKE, Box 19, Smithsburg, Washington Co., Md. 2-5

1879. 1879.

Italian Queens, Nuclei and Colonies,

Bred and reared in full strong Colonies. Queens and Drones from selected mothers.

Single Queen, Tested	$2 00
Single Queen (laying), Untested	1 00

On all orders for 10 or more Queens I will pay express charges, except to States west of Rocky Mountains.

1 Langstroth frame Nucleus	$2 00
2 " " "	2 50
3 " " "	3 00
8 " " Colony	6 00

Nuclei and Colonies in nice white pine hives. One Dollar more when containing Tested Queen. Send money by P. O. Order or Registered Letter.

Orders promptly filled and safe arrival guaranteed.

Address, W. P. HENDERSON,
3-6 Murfreesboro, Tenn.

AT REDUCED RATES!

1879—Early Italian Queens.—1879.

Imported and home-bred Queens, Nucleus Colonies, Full Colonies. For quality and purity, my stock of Italians cannot be excelled by any in America.

If you want the best Movable-Comb Bee-Hives, suited to the Southern climate, Honey Extractors, Bee-Veils, Smokers, Feeders, Gloves, or bee-fixtures of any kind, send for my new Circular. Address,
1-6 Dr. J. P. H. BROWN, Augusta, Ga.

ITALIAN QUEENS AND BEES.

Send for price-list of Queens, full colonies, four-frame nuclei, comb foundation, and apiarian supplies. Satisfaction and safe arrival guaranteed. All Queens reared from Imported Mothers.
4-tf H. H. BROWN, Light Street, Col. Co., Pa.

1879. **1879.**

REV. A. SALISBURY & HAYES,

CAMARGO, ILL.,

Breeders of Pure Italian Bees and Queens, from Imported and Home-Bred Mothers, and Manufacturers of Hives, Prize Boxes, Comb Foundation, and all general Apiarian Supplies.

BEES.

Reserved and Early Tested Queens	$3 00
Queens, July to September	2 50
Colonies of 10 frames	9 00
" 12 "	10 00
Nucleus, 1 frame	4 00
Comb Foundation, 10 lbs. or over, per lb.	50

Wax cleaned and worked for 25c. per lb., or on one-half shares.

☞ Send for Circular. 2-7

Italian Queen Bees

FOR 1879.

I shall breed Italian Queens for the coming season, from imported mothers of undoubted purity. Safe arrival and purity guaranteed in every shipment. Prices very low. Circulars sent free. Address,
D. P. MYERS,
ap1y1 West Salem, Wayne Co., Ohio.

BEFORE PURCHASING

Supplies for your Apiary, send a postal card with your name (and if you will do us the kindness, those of bee-keeping neighbors) for our illustrated circular of Apiarist's Supplies, of every description; sample Sectional Box, and Comb Foundation made on the

Dunham Foundation

machine, which is the latest improvement in that line. We wish to place these samples before

EVERY READER

of this JOURNAL, and hence offer them **FREE.** Just send your name at once. Special attention given to rearing Italian Queens and Bees.

☞ We have secured the general agency of the above machine.

The highest price paid for Beeswax.
1-tf J. C. & H. P. SAYLES, Hartford, Wis.

In the Market again with 100 Colonies of

ITALIAN BEES,

with young, fertilized Queens, less than 60 days old, at $5.00 per Colony. We shall continue to rear Queens through the season as usual.

Tested Queens, per dozen	$25 00
Untested Queens, "	10 00

Safe arrival guaranteed. Address,
D. STAPLES & SON, Columbia Apiary,
1-6 *Columbia, Tenn.*

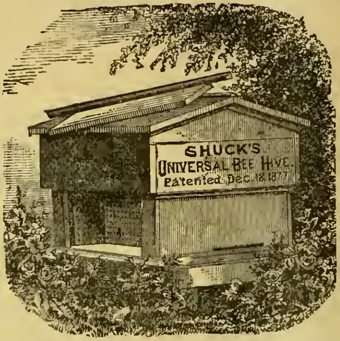
ITALIAN NUCLEI.

Strong 4 frame Nucleus, in new hives, all complete, for	$5 00
Two frame nucleus	2 50

All Queens reared in full colonies, from a choice Imported Mother. HIRAM ROOP,
2-tf Carson City, Montcalm Co., Mich.

SHUCK'S UNIVERSAL BEE HIVE.

Claims the Attention of every one engaged or interested in Bees.



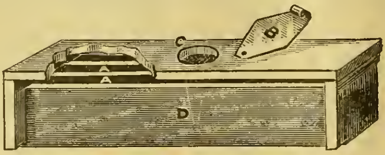
THE HIVE

Is devised by a practical bee-keeper for PROFITABLE use; double walls, with either dead air space or chaff packing; inside walls are porous, allowing all moisture to escape from the brood chamber, keeping it perfectly dry, sweet and wholesome, even with unsealed stores; both sides are removable; frames hung upon metal supports on the top of the end walls (not in rabbets) and are easily handled; brood chamber large or small, as desired, and may be as complete with one frame as with a dozen; space for 96 pounds surplus honey within six inches of the brood nest. No colony need be lost during the winter months in this hive. No melting combs in this hive during the hot weather. Positively

THE BEST HIVE BEFORE THE PUBLIC.

APIARY RIGHTS, $5.00. TERRITORIAL RIGHTS FOR SALE ON EASY TERMS.

SHUCK'S BOSS BEE FEEDER,



Patented June 11, 1878,

Removes all the obstacles in the way of feeding, by its simplicity, cheapness, and its adaptability to the purposes required. It is to be placed at the entrance outside the hive, and supplied with sugar syrup, or syrup and flour any time in the day, without annoyance from bees, either to the bee-keeper or the colony being fed; no bees can reach the food except from the inside of the hive. Every bee-keeper appreciates the advantage of feeding to supply short stores for the colony, or to stimulate and encourage breeding, previous to an expected flow of honey.

Prof. A. J. Cook says: "I think very highly of your feeder, and only find fault with the price."

G. M. Doolittle says: "You are just a shouting when you say, 'I trust my Boss Bee Feeder will please you.' It is the best bee-feeder I ever saw, in ease of feeding, simplicity and for general use. When I see a good thing I like to say so. It is worth no less because it is patented."

D. D. Palmer says: "I received your Boss Bee Feeder and would say of it, that I like it better than any I ever saw; in fact, it seems to be all that could be desired. It is all you claim for it, being so convenient to get at, and being so readily filled without disturbing the bees or being to the trouble of taking off the cover."

SAMPLE, BY MAIL, 30 CENTS.

Address, J. M. SHUCK,
DES MOINES, IOWA.

THE AMERICAN BEE JOURNAL

Devoted Exclusively to Bee Culture.

VOL. XV. CHICAGO, ILLINOIS, JULY, 1879. NO. 7.

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Editor's Table.

☞ If we wish the world to acknowledge the superiority of American honey and admire its marketable shape, let us continue to study the "ways of commerce," and after learning the needs of consumers, apply ourselves to the task of supplying all the open markets with "honey in the most desirable packages."

◆

☞ Mr. Perrine, of "floating apiary" notoriety, called on us a few days ago. He has abandoned the floating apiary experiment, after having sustained a heavy loss in the enterprise. So many bees leave their hives and never return, that to gain money by a floating apiary is an impracticable undertaking. He now has 500 colonies, a part of them in Louisiana and the rest in Illinois. Mr. Perrine is an enthusiastic bee-keeper, and has given the floating apiary business a thorough trial.

◆

☞ Among the resolutions passed by the Sanilac County, Mich., Bee-Keepers' Convention lately, was the following: "We advise the apiarists of Sanilac county to secure their honey crop in the 'prize box,' and to ship it in the 'prize crate.'"

◆

☞ Fruit may be preserved with honey by putting the fruit first in the can, then pouring honey over it, and seal air-tight; when the honey is poured from the fruit it will have the flavor and appearance of jelly, making a delicious dessert.

◆

☞ J. W. Newlove's price list of apiarian supplies. He is located at Columbus, O.

American Honey in England.

Just at the time when every American bosom is swelling with patriotism—when fire-crackers, guns and cannon proclaim the return of our "National Independence Day"—the glorious 4th of July—it is with special pride that THE AMERICAN BEE JOURNAL points to the fact that not only American honey in the comb, but also the style of packages in which it is put up, are receiving the approbation of the aristocracy and nobility, as well as royalty itself in Europe.

We have before announced the fact that 100 tons of American honey in the comb had been safely landed at Liverpool, and that 80 tons more had been received in London by Mr. W. M. Hoge, manager of the honey department of Messrs. Thurber & Co., of New York.

The report published in our issue for January, that some of the former lot had been confiscated on account of adulteration, grew out of the fact that the British government had requested Mr. Hoge to furnish samples for analyzation. He gave them a crate of honey each produced by Capt. Hetherington, Mr. P. H. Elwood, and Mr. C. R. Isham. These samples were analyzed, and of course proved to be unadulterated.

Mr. Thurber explained on page 50 of the February number of the AMERICAN BEE JOURNAL, that it was "a malicious rumor started by a jealous enemy." In our comment upon this statement we said that we were "exceedingly glad to hear that the cargo of honey in the comb had *not* been confiscated," &c. Jealous rivals will sometimes do some very contemptible things—but this was one of the *meanest*, as it involved the interests of all the bee-keepers of the United States, more or less.

Mr. Isham informs us that at an exhibition in England, his honey was awarded the premium over 70 competitors. Concerning his honey as it stood on the sidewalk in front of Thurber & Co.'s store in New York, the editor of the *Bee-Keepers' Magazine* says:

"We must confess that for uniformity of appearance, neatness of packages, well-filled sections of snowy whiteness, and completeness in capping (all being worker-comb) we have never seen its equal, although we have examined nearly every large shipment which has come to this city for several years past. The crates will weigh from 30 to 35 lbs. each, are of light basswood, white and smooth; the side-slats between which the sides of the section-boxes are seen, are fastened with large, round-headed brass nails, rendering the crates quite ornamental."

American honey in the comb being no longer "suspected," dealers are not so "chary" about handling it. Mr. Hoge, who is an indefatigable worker and a man of indomitable energy, having made the acquaintance of the Lord Steward at Windsor Castle, presented him with a crate of the most attractive comb honey he had on hand, which was some of the crop of Mr. C. R. Isham, of Peoria, N. Y. This was expressly intended for the Royal table of Queen Victoria. The next day Mr. Hoge received the "Royal Bill of Fare," in which "American Honey" figured as a part of the *menu*. The day following he received a letter from the Lord Steward, of which the following is a copy:

Windsor Castle, April 29, 1879.

Lt. Col. Sir Jno. Cowell, has been instructed by Her Majesty the Queen to thank Messrs. H. K. & F. B. Thurber & Co. for the honey sent, and requests a further supply of ten cases. Respectfully,

[Signed] JNO. C. COWELL,
Lt. Col. Lord Steward.

This circumstance will no doubt counteract much of the prejudice against American honey, and it is due to Mr. C. R. Isham, of Peoria, N. Y., to say that his honey and style of box has won this "bit of glory." For exhibition purposes, the Isham box is admirably adapted, as it shows the honey so nicely—being glassed on four sides. These boxes may be used as section frames and glassed when filled, just like the "prize" box.

☞ The "Manhattan Beach" Summer Season opened on the 14th. ult. It was a grand success. P. S. Gilmore's full band and the great cornetist, Levy, gave the finest programme ever given at any concert in America. We learn that this band has been engaged for the season. Those going to New York should go to Manhattan Beach.

International Exhibition.

The great International exhibition of bees, honey, hives and apiarian supplies generally, will be held at Prague, Bohemia, Sept. 7-11, 1879, at the time of the celebrated annual meeting of the apiarists of Germany and Austria. Americans are solicited to make a good display of apiarian utensils, bees, honey, &c. All such must be sent from this country by about August 10th, to be received in time. The Rapid Foreign Express Co., 100 Dearborn street, Chicago, will forward goods at the rate of about $6.50 per 100 pounds in weight, or less. Mr. N. E. Dillie is the agent in this city. All such should be addressed to "Mr. R. Mayerhoeffer, Neustadt No. 747, Prague, Bohemia, Europe."

This exhibition will contain, (1) living bees, (2) bee-hives, apiarian implements and tools; (3) antiquated bee-hives, not now in use, for the historical section; (4) honey and wax, and divers preparations of them, likewise honey-cakes of all kinds, honey-wine, etc.; (5) bee-papers and bee-literature generally.

Mr. Mayerhoeffer in a recent letter says:

> "For scenery and decoration, we desire Americans to provide their own—the Stars and Stripes may flutter by the side of our Imperial Double Eagle. We invite American bee-keepers to come in profuse numbers. They will be welcomed in a most friendly manner.
>
> "We guarantee to all American exhibitors, to buy their goods if they will consent to take one-third of the payment in tickets to our prize distributions, which are sold at 10 cents each, American money.
>
> "It will be interesting to the readers of the AMERICAN BEE JOURNAL to know that our Crown Prince is also a bee-keeper. He takes a very great interest in it, and I have lately been appointed his tutor in bee-keeping.
>
> "For the exhibition, prizes are fixed by the Austrian government, consisting of silver and gold medals. The Society of Bee-Friends will also award medals of gold, silver and bronze, as well as diplomas."

☞ The Executive Committee of the National Association has gotten up some illustrated diplomas which may be used by Vice Presidents at honey shows in their respective States. They will be forwarded to Vice Presidents free, by mail, upon application to this office.

Dr. E. GALLUP, who figured largely in the BEE JOURNAL as a vigorous writer some years ago, is now at Scenega, California. He is delighted with the climate, and thinks of locating there.

☞ Mr. J. Pometta has already started from Europe with a shipment of Italian queens, and expects to be in Chicago about the middle of this month with them, as will be seen by his advertisement elsewhere.

CLARIFICATION OF HONEY.—Lodwig's Patent Alumina, a pasty substance containing about 10 per cent. of anhydrous alumina, is prepared by precipitating sodium aluminate with lime, dissolving the calcium aluminate obtained in hydrochloric acid, and then adding to this solution containing aluminium and calcium chlorides an equal weight of calcium aluminate. This causes all the alumina to separate in form of a gelatinous precipitate, while the calcium remains in solution as chloride. To use this for the clarification of honey, ten kilograms of the latter are mixed with twenty kilograms of water, and the mixture brought to the boiling point. Then 300 grams of the patent alumina, somewhat thinned with water, are stirred in, the whole once more brought to a boil, then set aside for one night. Finally the honey is strained and evaporated in a steam bath to the proper consistency. If the honey exhibits an acid reaction it should be treated with some magnesium carbonate previous to adding the alumina.—*Pharm. Zeitg., XXIII., No.* 79.

GRAPE SUGAR.—From time to time the readers of the apiarian department of the *Michigan Farmer* have been warned against the use of grape sugar in any form in the apiary. Even if its use in place of sugar syrup or honey, for stimulative purposes or winter stores, were not likely to bring about disastrous results, I would very much doubt the economy of the practice. It costs less per pound than cane sugar or honey, but it contains much less sweetness. The following extract from a letter received last month from a Michigan bee-keeper, shows the way its use has resulted in most instances—or at least *one* way, for it has often been the cause of disease also: "Grape sugar killed my bees. I made a syrup of about two parts grape sugar and one part coffee sugar; and the bees would eat out the coffee sugar and starve with the grape sugar all hard in the cells."—*Michigan Farmer.*

Honey Shows in England.

The British Bee-Keepers' Association will hold their Annual Honey Show at South Kensington, near London, on Tuesday, July 22d, 1879. The Rev. Herbert R. Peel, Hon. Sec. of the Association, has been instructed to invite the editor of the AMERICAN BEE JOURNAL to act as one of the judges on that occasion. Deeming this another token of the cordial friendship existing between the National Societies of England and America, we have accepted the position, and by the time this JOURNAL is in the hands of its patrons we expect to be in London, attending the Kilburn Show of the Royal Agricultural Society of England, which will be held from June 30th to July 7th. As we understand it, the South Kensington Honey Show is to be the *principal* one, though at Kilburn prizes are to be awarded amounting to nearly $120.00. Those wishing to send articles to the Kensington Show must dispatch them at once, in order to be in time. We learn with pleasure that Messrs. Thurber & Co., of New York, will exhibit 1,000 crates of America's choicest honey, from the apiaries of Capt. J. E. Hetherington, Messrs. J. Oatman & Sons, Ellwood, Adsitt, House, Isham, Harbison, Edwards, Floyd, and other leading honey producers. This display will do credit to the honey interests of our country.

Wired Foundation.—We have been trying the new comb foundation with wire inserted and we have now in our apiary some of as fine sheets of brood, all nicely capped over, as can be desired, and we are ready to pronounce it a success. The cells are built out perfectly, and the combs are nice and straight. The wires are no objection as some bee-keepers feared they might be. We think as soon as the advantages of this foundation are generally known it will be adopted in preference to any of the other styles now in use. The only drawback perhaps is in the increased cost of it as compared with the other styles. We hope manufacturers may be able ere long to produce it considerbly cheaper. —*Bee-keepers' Instructor.*

Attractive Packages of Honey.

It is with pleasure that the AMERICAN BEE JOURNAL notes the fact that American single-comb sectional boxes are not only duly appreciated in England, but the *British Bee Journal* gives due credit to American ingenuity and enterprise in getting them up, as well as for our advanced views on marketing honey. The following extracts show that the editor, Mr. Abbott, takes a very rational view of these things:

> "We owe it to American enterprise that the honey market question has been so thoroughly investigated. Their huge consignments, thrust upon us almost without warning, came like smoke into a bee-hive, alarming everybody within the sphere of its action, and setting them to work like bees to save themselves and their belongings; but now, having got over the 'scare,' we think it right to acknowledge that the American honey merchants have really helped us out of what was a sore difficulty, viz., the means of disposing of our honey. They have proved that if in salable packages it will find its way into our grocers' shops, and thence into family cupboards for every-day use."
>
> "The large imports of honey........have, nevertheless, called the attention of the bee-keepers of England to the fact that honey in small sections, is in most salable form, both from its beautiful appearance and the handy shape and size of the packages which the sections form when prepared for the market."

Fuel for Smokers.—In the *Bee-Keepers' Exchange*, Mr. Nellis remarks as follows concerning fuel for smokers:

> "We have just learned something that 'tickles' us exceedingly, and as it is so handy and inexpensive, it must prove an acquisition. If you haven't any good punk-wood or cotton rags to burn in your smoker, why just take some heavy brown paper, roll it up like a cigar, ignite one end, and it will burn splendidly. One roll will last an hour or two. Heavy paper, such as is used around clout and finishing nails, works best, but even straw paper answers very well. The smoke is very effective, and *we* shall seek for nothing better. Just try it."

Well, we have tried it in the AMERICAN BEE JOURNAL apiary, and must say we are also "tickled." It works like a charm. The tube is so much cooler all the time than when rags or wood are used. Of course, wood is best when the apiarist desires smoke continuously.

The Rev. L. L. Langstroth.

We regret exceedingly to learn that the Rev. L. L. Langstroth is prostrated again with his old complaint, and fear that his late active thought endeavoring to catch up with the improvements made during his unconsciousness, has been, at least in part, the cause of this relapse. A letter from Mrs. A. L. Cowan, his daughter, states that "he has been steadily decreasing in vigor of mind and body for the past two months, and is not at present equal to exertion of any kind. He has another attack of his almost life-long malady."

Knowing the manner in which Mr. Langstroth was treated during the "patent" war, and how he was compelled to "litigate" till his "means" were exhausted, to defend his invention, the Wisconsin Bee-keepers' Convention, lately held at Hartford, Wis., appointed a committee, consisting of Mr. George Grimm, Rev. A. H. Hart and Mrs. F. Dunham, to gather funds in order to present to the "Father of Scientific Bee-Culture in America" a financial testimonial of the appreciation of his services to the apiarists of America.

The AMERICAN BEE JOURNAL heartily approves the action of the Wisconsin Association, and hopes that all those who have been benefitted by the labors of Mr. L. will show their appreciation, by sending to the committee any sum they may feel like donating to such a worthy object. The first installment has already been sent to Mr. Langstroth, and his daughter, Mrs. Cowan, has acknowledged it with much gratitude in behalf of her father, who is totally unable to do so. In a former letter this lady remarked as follows:

> "Such a testimonial as you propose, if successfully carried out, would relieve my dear father from much of the burden which in his old age and feeble health presses very heavily upon him. We who know all of his disinterested labors for the bee-keeping public, and his meagre return in dollars and cents, feel that it would be but simple justice."

Mrs. F. A. Dunham, DePere, Wis., has been appointed treasurer of the committee, and anything sent to her for the above object will be forwarded to Mr. Langstroth.

We wish some one would head the list with $100. If no one will lead off with a larger amount, the AMERICAN BEE JOURNAL will commence it with $25.00. If more convenient, subscriptions may be sent to this office in any amount desired, and we will see that they are properly applied.

Thos. G. Newman & Son, Chicago, Ill..	$25 00
C. O. Perrine, Chicago, Ill............	25 00
Chas. Dadant & Son, Hamilton, Ill...	25 00
Chas. F. Muth, Cincinnati, O.........	25 00

Iowa City, Iowa, June 9, 1879.

DEAR MR. NEWMAN:—Accept my thanks for giving me a chance to add my word in favor of a testimonial to Mr. Langstroth. In honoring him, our bee-keepers will honor themselves as well. I hope a good sum may be obtained, and shall be glad to add my mite to the gifts of others.

Most truly yours, O. CLUTE.

Since the above was in type, the following graceful reply has been received in acknowledgment of a remittance from the AMERICAN BEE JOURNAL:

Oxford, Ohio, June 20th, 1879.

THOS. G. NEWMAN & SON: *Gentlemen:* It is with mingled feelings of pleasure and regret that I attempt to reply to your letter of the 17th inst. addressed to my father, and received by him yesterday. While deeply grateful to you and to all kind friends who have so generously responded to the appeal on his behalf of the Wisconsin Bee-Keepers' Convention, I greatly regret that he is at present unable with his own hand to express to you his sincere and hearty thanks for your kindness. When he again recovers he will express to you all his gratitude in far more eloquent words than I have at my command, and in the meantime I trust you will rest assured that he fully appreciates your kindness. Respectfully yours,

ANNA L. COWAN.

☞ In a memorial to Congress, relative to the coming census of the United States, the superintendent of the census of 1860, Mr. Kennedy, gives the following statistics as an illustration of the stupendous results from a single hive of bees, transported to the Pacific coast less than 30 years ago. From the single county of San Diego, California, in 1876, there were shipped 1,250,000 lbs. In 1877 there were in that county 23,000 colonies of bees, and in one day, Sept. 6th, 1877, there were shipped from that port 78 barrels, 1,053 cases and 18 tons; and from and including July 17th to Nov. 10th, 1879, less than 4 months, that one county exported over 1,000 barrels and 14,544 cases, nearly 20 tons.

The National Convention for 1879.

The annual convention of the North American Bee-Keepers' Society will be held in the Globe Theater, Des Plaines St., Chicago, Ill., commencing at 10 a. m. on Tuesday, Oct. 21st, 1879. Arrangements have been made with the Washington Hotel and Gault House (near to the Theater) for board and lodging of those attending the convention, at $1.50 per day.

Cheap round-trip tickets can be procured on almost all the railroads centering in Chicago.

The Executive Committee have made arrangements with the Great Western Railway of Canada to carry those coming to the convention, on a return ticket, at one and one-third fare; the Chicago, Pekin & Southeastern Railway at one and one-fifth fare; the Chicago & Lake Huron Railway at 2c. per mile each way; the Chicago & Eastern Illinois Railway, between Chicago and Evansville, Chicago and Lafayette, via Hoopeston and Chicago & Indianapolis, at one and one-fifth fare.

Those intending to avail themselves of these reduced rates must procure, from the office of the BEE JOURNAL, in Chicago, a printed certificate that they are entitled to such reduced fare, to present to the ticket-office when purchasing their tickets. If enough are coming over the Pennsylvania Central Railway, the Pittsburgh, Fort Wayne & Chicago, and the Cleveland & Pittsburgh Railways to warrant it, we can procure tickets specially printed, for 2c. per mile each way. It will be necessary for those coming over these roads to send their names to the Chairman of the Executive Committee, who will then forward the necessary orders on the local ticket-offices.

All are invited. Present indications point to a very large and enthusiastic meeting.

THOMAS G. NEWMAN,
Chairman Executive Committee.
E. PARMLY, *Sec.*

The Executive Committee, appointed to make all arrangements for the coming Convention in Chicago, have so far progressed in their labors, as to be able to report the following topics and persons who will lead off in the discussion of them:

"Wintering bees, physiologically considered."—Prof. A. J. Cook, Lansing, Mich.

"Patents, as applied to Implements for the Apiary."—A. E. Wenzel, Callicoon, N. Y.

"How shall the mass of bee-keepers secure the largest income?"—Dr. C. C. Miller, Marengo, Ill.

"Wintering bees on summer stands."—J. E. Moore, Byron, N. Y.

"Monstrosities among bees."—S. C. Dodge, Chattanooga, Tenn.

"Disastrous wintering and spring dwindling of bees; the cause and prevention."—Rev. A. H. Hart, Appleton, Wis.

"Disentery as a bee disease."—E. Rood, Wayne, Mich.

"Fertilization in Confinement."—Prof. J. Hasbrouck, Flatbush, Long Island, N. Y.

"Qualities in Bees."—James Heddon, Dowagiac, Mich.

"Foul Brood."—L. C. Whiting, East Saginaw, Mich.

"My Method of Queen-Rearing."—Wm. J. Andrews, Columbia, Tenn.

"A National Apiary and Queen-Rearing Establishment."—Wm. Williamson, Lexington, Ky.

"How to Prevent Swarming."—D. D. Palmer, New Boston, Ill.

"Should we try to Prevail on People to Keep Bees?"—W. M. Kellogg, Oquawka, Ill.

"Introducing Virgin Queens."—Rev. Dr. M. Mahin, Logansport, Ind.

"Can Bee-Culture be made Profitable? If so, how?"—J. H. Nellis, Canajoharie, N. Y.

"Something about Bees."—H. A. Burch, South Haven, Mich.

"Will the Rearing of Dollar Queens be Profitable to the Buyer and Seller?"—D. A. Pike, Smithsburg, Md.

"Comb Foundation."—J. W. Porter, Charlottesville, Va.

The Committee being desirous of making the meeting a thoroughly practical one, would suggest to those who lead off in the discussion of the themes enumerated, that *short* and *concise* statements are far more valuable to the apiarists of America than long dissertations. They are intended solely to *introduce* the discussions that will follow. It is not expected that they will exhaust the subject, but should present such facts and figures as will lay the theme fully open before the Convention, and call for a thorough and rigid examination.

The coming Convention promises to eclipse all its predecessors, not only in the number of its participants, but also in the interesting programme which it presents. Indications now point to the largest delegations from all parts of the United States and Canada that have ever attended any similar meeting on the American Continent. The invitation is general to all interested in the subject of bee-culture, to attend and take part in the deliberations. The most momentous themes that now engross the attention of apiarists will be fully discussed. As further arrangements are made they will be published by THE EXECUTIVE COMMITTEE.

"Excelsior"—A Lady's Experience.

For good, sound, practical common sense, applied to the management of the apiary, we commend the following from Mrs. L. Harrison, of Peoria, Ill, In the *Prairie Farmer* she says: "I have 150 hives in my apiary; standard Langstroth, manufactured from good lumber, well seasoned and painted, and I think I can to-day afford to give $1 each for every moth worm found in them." That is just the right kind of talk. Moth worms are seldom found except in old and rotten hives, full of crevices, or in weak or queenless colonies, that have been neglected, or in some complicated hive. The many who are forever talking of moths and "moth-trap hives" should learn the cause and avoid the nuisance. Mrs. Harrison justly remarks:

> And right here let me say, that the man who will keep his bees in old, dirty rotten hives, deserves not only to have moth worms in them, but in his coffin. Like Patrick Henry, "I have but one lamp by which my feet are guided, and that is the lamp of experience." In years past I have frequently bought combs in the spring from parties who had lost their bees during the winter, many with moth worms in them, placed them directly in the hives. and in a few days the Italians would have them nicely cleaned out. This was done so often that 5 years ago I made the following assertion, and with 5 years' additional experience I see no reason to modify it, that "a teacupful of Italian bees in a hive will keep the moths out of the combs," and now as the "proof of the pudding is in eating it," ladies and gentlemen, doubting Thomaes, one and all, you are invited to meet me on my battle ground and inspect.

That is just the right kind of practical talk. Now let the "moth-trap" men meet this woman, and to use a vulgar but pertinent phrase, "either put up or shut up." A good colony of Italians in a good, plain, simple and sound hive, are the only moth traps worth a cent.

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☞ After satisfying yourself that you are right, go to work with courage, and let no one tempt you from the course you have deemed right and just. He who falters in a *just* cause is unworthy of the confidence of any one.

Bee and Honey Shows.—Some inquire what to recommend to the managers of Agricultural Societies as prizes for exhibits of bees and honey. This is important and timely. At the show in Dumfries, England, prizes were offered for the following articles: Clover and flower honey, hives and wax, best bee furniture, bee gear and apiculturist's necessaries, best bee feeder; cheapest, neatest and best supers; best honey extractor, new inventions calculated to advance apiculture; best chemical or other test for detecting spurious from genuine honey, and for the best liquor, wine, mead or beer, made from honey, with recipe attached. The following is about the usual enumeration at American Fairs, where the prizes are given for exhibits of bees and honey:

	1st Prem.	*2d.*
1. Display of honey (comb and extracted), and wax	$5 00	$3 00
2. Package honey in comb. 1 lb. or more.	3 00	
3. Five lbs honey, extracted, (3 kinds)	3 00	
4. Machine for extracting honey	dip.	
5. Bee hive, for all purposes	dip. 5 00	
6. Italian queen, with her bees	7 00	
7. Display of bee-keeper's tools and implements, and fixtures, (not including hives or honey extractor)		5 00
8. Exhibition of a swarm of bees in hive, including their handling and method of subjugation, to be practically illustrated	10 00	

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☞ The busy season is at hand now in every apiary. Though long delayed, it will be welcome. The busy hum of the industrious workers make merry music. The 70 colonies in the Bee Journal apiary are gathering honey freely and doing exceedingly well, though situated in a large city. Many queens have been lost by the late cold and unfavorable weather, and everything is behind in queen-raising and building up of colonies—still we hope for better things during the next month.

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☞ No one should expect to be successful with bees, if unwilling to attend to them. They will suffer from neglect just as soon as any other insect, animal or growing crops of grain. If there is not sufficient bloom near them, there will be no honey surplus for their owner; in such case, pasturage may be provided by cultivating honey-producing shrubs, trees and plants.

☞ The Cincinnati *Commercial*, in a recent article concerning the "Honey Trade," remarks:

> "Ohio is the home of the person who, *par excellence*, knows more about bees than anybody else in the United States. It is the Rev. L. L. Langstroth, of Oxford, Ohio. He it was who invented the only bee-hive which is worth a straw, and who has shared the fate of most inventors that have really been benefactors to their race, in that he is a poor man to-day."

The *Commercial* in the latter clause states a fact that should burn the ears of a few, who so persistently labored to impoverish him who so generously benefitted the past as well as the present and future generations of bee-keepers, by the invention of the movable frame hive; for

"Ever shall truth come uppermost,
And ever shall justice be done."

Well let us see now who will feel deeply enough to in a measure repair the injury done by designing and selfish men of the last decade.

"Some men die not; the grave's abyss
Is never deep enough to hide
Their grandest acts, whose light shines on
Like beacons on a mountain side.

"The deep pulsations of their lives
Throb on, and on, through ages vast,
As ceaseles as a river's flow,s
And Time and Death's eclipse outlast."

Wisdom of Feeding Glucose.—Prof. Cook, in the *Country Gentleman*, says: "Mr. Root has persistently declared that glucose and grape sugar were separate and distinct. Of course, this is utterly incorrect, as any chemistry, physiology or dictionary will assert. It may be that the so-called glucose of commerce may contain a variable amount of dextrine or other substance. If so, the name glucose is a misnomer. Practically it makes no difference. The liquid called glucose, and the solid grape sugar are alike in being convenient adulterants for honey. Either may be used for that purpose. The liquid is pleasant, the solid when dissolved is bitter, so if either is to be used, the liquid is preferable. If either is used, honesty requires that the label shows the exact composition. Feeding glucose for winter stores is not to be recommended. The safety of this practice is not yet assured, and the danger from such practice to our market is apparent, while the financial advantage which extracted honey at the present low price is too slight to make it greatly desirable, even though it were safe, and free from all danger to the markets."

Well, What Next?—The latest exploit of the San Francisco reporter is the alleged exposure of a process for manufacturing hen's eggs from deleterious materials. According to the narrative, the albumen is imitated by a mixture of sulphur, carbon and fatty matter obtained from the slaughter houses and rendered sticky with mucilage. The yolk is made of blood, phosphate of lime, magnesia, muriate of ammonia, oleic and margaric acids, and colored with chrome yellow. The shells are shaped by a blow-pipe from a mass of gypsum; plaster of Paris, carbonate of lime and oxide of iron. After the shells are blown the albumen is forced in through a hole in the small end and sticks to the sides; then the yolk is added, and after being covered with more of the albumen mixture the hole is sealed with cement; the complete egg is rubbed pretty smooth and laid aside for packing. It is asserted that many barrels of these eggs have been shipped eastward for consumption.

The ingenuity of this conception is worthy of a much better cause; but we cannot believe that such a thing was ever accomplished. If it *did* occur the manufacturer should be punished very severely. Oh, how much we do *need* a general and stringent law against adulteration, that would reach all such nefarious rascals as the inventor of the alleged "eggs," and "wooden nutmegs"!

Test of Adulteration,—If you have cause to suspect adulteration in honey with glucose proceed as follows: Take a quantity of honey and add one part water, dissolving the honey thoroughly by stirring. Then add alcohol of 80° until a turbidness is formed which does not disappear on shaking. If glucose syrup is present in the honey soon a heavy deposit of a gummy, milky mass will form, while with pure honey there will only be a very slight milky appearance observed.

Granulated Honey.—The Jews of Moldavia and the Ukraine prepare from honey a sort of sugar, which is solid and white as snow, which they send to the distilleries at Dantzic. They expose the honey to frost for three weeks, where neither sun nor snow can reach it, and in a vessel that is a bad conductor of caloric, by which process it becomes clear and hard like sugar.

☞ In Cyprus the manner in which bees are kept is curious, and deserves notice. Walls formed entirely of earthen cylinders, each about 3 feet long, are placed one above the other horizontally, and closed at the extremities with mortar. This wall is then covereed with a shed, and upwards of 100 colonies are maintained within a very small compass.

Our Letter Box.

Street Road, Pa., May 29, 1879.

Bees have done very well this spring here, though we had a long cold winter. Many bees died in this neighborhood. I lost 5; have 25 left, all in good condition. I am well pleased with the Bee Journal.

W. H. Yearsley.

Canton, N. Y., May 17, 1879.

My bees came out of the cellar in fine condition, and now are from 2 to 3 weeks earlier than usual. The weather has been warm and fine since they were taken from the cellar, on April 22d. They brought in pollen the same day that they were put out, and the blossoms have continued, one after another, till now. The hives are full of bees and brood, and if nothing happens, we may expect early swarms.

James Baird.

Oregon City, Oregon, May 17, 1879.

E. P. Massey, in May number of the American Bee Journal, complains of bitter honey, and thinks the bitter taste comes from horehound. I have lots of horehound, and my honey crop last year, from that source alone, was considerable and equal to white clover; I shall sow more this fall. It is in continuous bloom for 3 months. Clover needs no culture to speak of, and buckwheat very little (see May No. Aeeeican Bee Journal), and I would advise all who keep bees to sow all three—buckwheat, clover and horehound. Besides the honey, clover is an excellent pasturage for stock, and, I dare say, bees will prefer to work for the honey they produce, rather than any bitter honey they may have been gathering. A. W. Steers.

Malden, Ill., May 9, 1879.

In the fall of 1877 I had 20 colonies in fair condition. I numbered and weighed them, putting 7 of the lightest into the cellar, 7 more into a box-house packed in hay, and left 6 on their summer stands. The difference in the spring of 1878 was as follows: Those in the cellar consumed 5 lbs. each, those in the box-house 7 lbs. each, and those on the summer stands 12 lbs. each. I kept them closed till March 12th. They built up to strong colonies in the fall. The spring and summer being unfavorable, they did not get as much as they consumed, but in the fall they gave some surplus. Last year I put my 20 colonies on their summer stands on March 6th. Two became queenless, but I strengthened them up, and they became good colonies in the fall. I ran one for queen-raising, and from the remainder I got 900 lbs. of comb honey and 600 lbs. of extracted, besides 29 colonies of increase. The weather was cold and backward, and continued so till June 10th. After that, for a month, the honey season was excellent. Then there was a month of drouth. From fall flowers they got a nice lot of box honey. I wintered 46 colonies, and will give the results in this year's report.

Robert Corbett.

Marengo, Ill., May 29, 1879.

My 134 colonies are working lively on white clover, and the present prospect is for a good harvest. C. C. Miller.

Merritt, Ill., May 29, 1879.

I have 40 colonies of bees, all doing well. Robbing may be stopped by putting a little cow manure in front of the hive, near the entrance. H. W. Hitt.

Smith's Grove, Ky., May 26, 1879.

My bees are gathering honey rapidly, and the outlook for a rich honey harvest is very good. We hope to build up our apiaries to their former strength, and harvest a good crop of honey. N. P. Allen.

Carlton, Mich., May 19, 1879.

I think that 90 per cent. of the bees in this vicinity are dead, caused by having too much honey. They filled up so full last fall that the queen had no room to lay, so that they went into winter-quarters with only old bees. As this spring was a month later than usual, the old bees died before young brood was raised. An extractor would have saved all the trouble, in my opinion. A. J. Wright, M. D.

Arkadelphia, Ark., May 29, 1879.

We have a good country here for bees; the forest is full of a large brown bee. We do not have the black bees; I do not know the name of them. I have 18 colonies; they are good workers, and very quiet. They are now getting honey very plentifully. Twelve months ago I sent to one N. C. Mitchell, of Sandusky City, O., for two queens. He has my money, but never sent me any queens. I am satisfied he is a humbug, but it cost me $9 to find it out. I am much pleased with the American Bee Journal. S. A. Rudisill.

Bristol, Vt., May 10, 1879.

We have had a very backward spring in Vermont. There is great complaint of spring dwindling here, but for the past few days the weather has been very favorable, and bees are now doing remarkably well. Fruit blossoms are just making their appearance. I find that talking while looking over bees aggravates them very much, and they are more apt to sting than when there is no talking going on. Is it the noise, or the breath, or the motion of the lips that disturbs them? A. E. Manum.

[Human breath is often quite offensive to bees, especially when it comes from a diseased physical system.—Ed.]

Glasgow, Mo., May 19, 1879.

I have 48 colonies in good condition, 5 with Italian queens and 43 blacks; they have commenced building combs in the honey boxes, but I have no swarms yet. Last year I had a large swarm on May 5, and had 7 more in May. Nearly all the bees in Chariton and Howard counties are lost; a great many bees left their hives; two came to my place; one very large swarm came to a neighbor and went in with a weak colony, and with a little feeding got through all right. Ben. F. Johnson.

Glen Rock, Pa., May 20, 1879.

My bees wintered with small loss, but were reduced in numbers. They gathered largely from fruit bloom, and increased in numbers very fast. They are now nearly all strong and ready for the real harvest, soon to begin. I am getting up a club for the JOURNAL. I work for it, because it works for me. J. H. BUPP.

Dunkirk, N. Y., May 23, 1870.

Am troubled with little black ants on top the honey-board ; how can I keep them off ? Had my first swarm the 20th of this month. Orchards are in full bloom. W. BOLLING.

[Many preventives for ants are recorded in the back numbers of the BEE JOURNAL. A practical plan is to entirely break up the nest, by brushing and smoking them when found. They do the bees and honey no harm, as they are glued out of the hive, and only seek such quarters for the purpose of borrowing a little warmth.—ED.]

Amadore, Mich., May 23, 1879.

The loss by wintering has been great. Some of our hitherto successful bee-keepers have lost heavily; some have lost all, others over 90 per cent. We lay it to the excreta of the wooly aphis, which was very plenty on the beech trees during the latter part of last summer. I have been engaged, more or less, in bee-keeping for the last 35 years, but never had any trouble in wintering until about the year 1867; since which time about every other year I have lost from 10 up to 75 per cent. How to winter successfully, is the question of questions with bee-keepers in this climate. GEO. SMITH.

Lansing, Mich., May 21, 1879.

It affords me pleasure to read the BEE JOURNAL. I am confident that it is the best bee literature which can be afforded to promote the science of apiculture, and I think it is unexcelled, for it looks to the best interests and welfare of the beginners. I speak from self-experience. In perusing it, I find the names of but few ladies, who have identified themselves in this work. It would be pleasing to see the record of others. My bees are doing nicely. I have had no swarms issue, up to date. I have two colonies less than when I last wrote you. One was robbed, and the second would have been, had I not united it with another. I tried various methods to prevent it (mainly by transferring to the cellar and left to remain a few days), but all efforts failed. The above method proved a success.

MRS. J. W. GARLICK.

Webberville, Mich., May 5, 1879.

I see by the JOURNAL, that many condemn wintering in cellar, hence I will give you my experience during the past severe winter. On the last of November, I put 40 colonies in the cellar, and about Dec. 4th put in 24 more, making 64 colonies. I extracted often from the brood chambers, during the summer, so that the queen had room for brood. On Jan. 1st I bought 44 colonies in the cottage hive ; they were full of honey, but only a fair amount of bees. I put them in the cellar on the 1st and 2d of January. This made 107 colonies. They remained there until March 8th ; I then set them all out for a fly, and you may rest assured they did fly. I put 104 back into the cellar the following morning ; the other 3 had died out. Nearly all had brood in all stages. I put all on the same stands during the first week in April, and during the following two weeks I lost 24 out ot the 44 that were full of honey, that I bought. The next day I doubled up 8 into 3, and during the third week in April two swarmed out and went into other hives, leaving brood in all stages. I put their brood in the hives with them, and last week I doubled up 10 more into 5, to get queens for 5 that had killed theirs, or had become queenless from some other cause. Now, you will readily see that I have lost 39 colonies, and 36 of them were the ones that were full of honey, that I bought Jan. 1st. Had those 36 been treated similarly to the first 64, I think they would all have been alive to-day. I now have 50 very good and 18 fair colonies. Ninety per cent. of the bees that were wintered out of doors are dead. If bees are properly prepared and put into a good cellar, we would not lose 1 per cent of them.

HARRY BLACKBURN.

May 28, 1879.

Does the first swarm of bees ever go back in the hive again of their own accord ?

IRA M. ALLING.

[First swarms frequently return to the hive, both before and after alighting. Inability of the queen is the usual cause.—ED.]

O'Fallon, Ill., May 19, 1879.

I think it my duty to my fellow bee-keepers to make the following statement of my dealing with N. C. Mitchell, of Indianapolis: In his price-list for 1878, he says, "We will furnish pure Italian queens bred from imported mothers, raised and fertilized on Kelley's Island, 12 miles out from Sandusky City, O. Our queens will be as pure as if raised in Italy." I had an old claim against him (a statement of which may be found in *Gleanings*, Vol. 5, No. 5, page 126) for which he promised, early last spring, to send me a full colony of his pure Kelley Island bees, valued at $20, as soon as he could raise them. I waited until the latter end of July, when I wrote to him that I was getting impatient for my Kelley Island bees, though I had learned before this that he had not a bee on that island. He replied that he could not ship full colonies nor his large frame nuclei in hot weather, as the rough handling of the express companies broke down the combs and killed the bees, and asked how many queens I would take in place of the colony. I replied that he could send just as many as he thought would make the thing fair and square, but what he did send I wanted of the very brightest and best, or I did not want any. On the 6th of September I received 4 queens, (2 of them being as dark on the back as pure black queens, with a sert of yellow abdomen; one of the others a dark leather color, with a black tip to her abdomen, and the other a tolerably bright and fair queen.) I introduced them all safely. The 2 dark ones never raised a bee with more than one yellow band; 1 of them perished during the long freeze, with her whole colony, and the other died about the 1st of March, leaving her colony queenless. I think she was a very old queen; she laid very sparingly last fall, and when she died there was very little brood in the hive. The light queen raises all kinds of bees, from clear black to 3 banded—mostly 1 or 2 bands. The other raises well marked bees, but of a very dark leather color, and they are the worst robbers I ever had. If there is any mischief going on, they are at the head of it. These are the facts, all can form their own conclusions as to his business qualities as well as his stock. C. T. SMITH.

Wittsburg, Ark., May 31, 1879.

I commenced with 24 colonies of bees in Langstroth hives, last March; had one destroyed by a fertile worker. I have extracted up to this date 600 lbs., and have taken 152 lbs. of comb honey. I have had only 6 swarms. This is my second year's experience with bees. We have no white clover here. W. H. NEWSOM.

Spring Lake, Mich., May 19, 1879.

I have lately visited several counties in western Michigan, and am of the opinion that more than 50 per cent. of the bees are dead. Many have lost all by dysentery, which I attribute to the following cause, viz: That the spring frost killed the baswood bloom, and much honey was made from the blossom of the corn, which is in its nature too relaxing. In proof of my conclusion, I will state that in localities near Lake Michigan, where corn is but little grown, the disease has not prevailed; and an individual located in a neighborhood of corn fields, and who wintered successfully, remarked that he did not, last season, follow the usual practice of putting on honey boxes until the bees had made sufficient honey below on white clover to winter on. W. H. HAMMOND.

Weston, Texas.

One of my neighbors last year had a swarm of bees come to his yard; they took possession of an empty hive, and were working finely before he knew it. This year another swarm came and went into a hive where a colony had died out; it was in his orchard over 100 yards from his house. They are doing well. I have heard of such before but never saw it till now. In the JOURNAL for August last I saw that a novice took a queen from a colony, but they did not raise another. Such is common in this country. I had 4 queenless colonies and had queen cells ready for them, but neglected to insert them; when I attempted to do so, the first queen was out and had destroyed the other cells. I then gave two of the queenless colonies Italian brood, but they failed to raise queens till I had given them brood 3 times. It seems to me that an improvement could be made in the smoker, by making the tin tube double, one inside of the other, leaving an air-space between the two to keep the outer one cool, which could then be kept bright and look like a new one. Wire cloth in the end of the tube to keep the fire, etc., from blowing out, would be an improvement. This may give an idea to some one. A. D. BUCKLEY.

Scranton, Iowa, May 29, 1879.

I have a colony of bees that threw off a very large swarm five days since, but they would not cluster, went back into the old hive, and came out again to-day. They went back into the same hive again without clustering. Now, I would like to know what is the matter. It is a strong swarm, and apparently in splendid condition. S. G. GAMBLE.

[Evidently the queen remained in the hive, or at least was not with the swarm.—ED.]

East Saginaw, Mich., June 2, 1879.

On page 250, of the JOURNAL for June, W. C. Nutt asks how short a distance will it do to move bees, after they have marked their location. You answered him correctly, if he wished to move them but a few feet, but if it should be too far for that, he will find in Vol. 4, page 235, a plan which I have tried this spring, and find that it works well, and not a bee has returned to the old stand. It is not necessary to catch the queen, but shake all the bees off into a box and let them cluster there, like a swarm, for half an hour; run them back into the hive like a swarm, and move them any distance you wish, and they will stay where you put them. L. C. WHITING.

Dexter, Mich., June 3, 1879.

I have been so busy during the winter and spring so far, that I gave no attention to my bees. I lost 3 colonies to May 1st, by starvation. In the month of February I should have given them some frames of honey which I had, but I did not; so they died out. Spring has opened up finely. Bees are storing well; breeding fast. They have had full benefit of the fruit and maple bloom, making them strong in numbers. A great many have lost heavily here, during the past winter, with hives full of honey. It pays to "pack" bees, even though it is extra work and expense. A thing well done, is twice done. J. H. MURDOCK.

Council Grove, Kan., May 30, 1879.

A Mr. Hansett, of this county, saw some bees at work on buckwheat, in a vicinity remote from any bee-keeper, and concluded there was a bee-tree near by. He afterwards returned to the locality and put out bait. The bees came to it, and he traced them to Council Grove, a distance of 8 miles. A few days ago I transferred a colony of blacks from one hive to another. I shook and thumped the old hive, until there were no bees in it, and removed it some distance away; I then united a weak colony with it, they having a worthless queen which I killed. The job was finished about noon. About 2 o'clock, I noticed the colony was unsettled; I went to the old hive, from which the first colony had been transferred, raised the cover, and there was the queen of the transferred colony, "alone in her glory." I put her back on the alighting board among the bees, but she refused to enter. I shook her in at the top, and have not seen her since. Was not that a strange freak ? D. P. Norton.

[It is a fact that bees travel much longer distances for forage than they were formerly supposed to do. This is an interesting item, bearing on the question of "overstocking." Perhaps you forced out all the bees but the queen. Many cases are on record, however, of queens leaving the hive after having been removed, and when they have found their old home, of re-entering it.—Ed.]

Cambridge, Ill., May 31, 1879.

Bees in this section did not winter well, some having lost from ½ to ¾ of their colonies. They were mostly wintered on summer stands, without protection. My 48 colonies were wintered in a cave, dug in the east side of a hill, and they came through in in good condition, except 4 that got damp by being on the bottom. I shall dig another this fall, and put some in both ; will give my plan for making a cave before winter, as I am confident I can make a success of it.
J. V. Caldwell.

Lexington, Ky., June 2, 1879.

Your esteemed favor, appointing me Mr. R. M. Argo's successor, as Vice President of Kentucky of the National Association, is duly appreciated. Knowing Mr. Argo's eminent fitness for the position, causes me to feel somewhat reluctant in accepting such a prominent position. However, I will strive to do everything in my power to advance the bee-keeping interests of Kentucky and bee-culture in general.
W. Williamson.

Galesburg, Ill., May 30, 1879.

I have kept bees for 30 years. The moth used to bother some, but for the past six years I have used the following preventative : Put a pint or more of sorghum molasses, with a little water added, or any kind of sweets, in a jar or jug, and put it close to the entrance, with a "float" of sticks ½ in. thick. The liquid should be stirred every few days. The vessels should be cleaned, say once a month, and refilled. I would like for others to try this plan, if troubled with moths. R. Bandy.

Columbus, Wis., June 4, 1879.

About ½ of the bees in this section have died since last October. Dysentery is the general cause. I put 6 colonies in the cellar last November (all Italians), and all came out strong. Our first swarm issued on June 2d, and the next day another issued from the same hive. I am using comb foundation with good success, one-half depth of frame. I use 2 parts of resin and 1 of beeswax to fasten the foundation to the frames. The American Bee Journal is a great help to us, united with your work on "Bee Culture" and Langstroth. E. Brown.

Waterloo, Ky., June 8, 1879.

Bees are doing very badly in this neighborhood this season. We had no rain for about 7 weeks, and the bloom dried up, yielding little honey, not enough for brood raising. I have taken but very little honey yet, and there is a poor prospect for taking any more. White clover is in bloom, but it came out in that dry weather, and seems to yield but little honey. So far I have had only 1 swarm, and there are no prospects for more very soon. R. L. Aylor.

June 2, 1879.

Please answer in the Bee Journal. Is there any patent on the adjusting board used in Mitchell's bee-hive ? He threatens to prosecute persons using it. **

[If you mean by adjusting board, a simple "division board," we say, *No*. Division boards were in use for years before Mr. Mitchell's adjustable hive was gotten up.—Ed.]

Logansport, Ind., June 7, 1879.

Having been appointed Vice President of the National Bee-Keepers' Association for the State of Indiana, I desire all the information I can obtain on all matters pertaining to the interests of bee-culture in the State. All bee-keepers are requested to communicate with me freely. I would be glad to be furnished with the names of persons who will undertake to give me information from their several sections.
M. Mahin.

Pittsford, Mich., June 6, 1879.

Are queens reared from a tested mother as good as those from an imported queen ?
G. A. Denman.

[That depends entirely upon what the "tested mother" was. We have queens in the Bee Journal apiary that we would not exchange for 10 unselected imported queens ! If you have a good, pure, prolific mother, her daughter may be far more valuable than an unselected imported queen. The simple fact of a queen being imported proves nothing in regard to her value. She must be judged by her traits of character and the quality of her progeny.—Ed.]

Lindsay, Ont., March 22, 1879.

I have a devise for holding together the closed end frames of the new Quinby hive, as well as the cases of sections for the top. Simply place a small-sized screw in each end of the panels or side-boards, and put the string, drawn a little tight, over the heads of the screws. This is more readily done, and holds together better than by tying a cord around the whole, as illusarated by L. C. Root, in the *American Agriculturist* for November, 1875 ; besides tying knots on cords, while side-boards are preversely pulling and 20,000 bees flying around, is not always a pleasant part of the manipulation. If friend Bingham will try them, he will possibly find them more desirable than his wires, as illustrated in Prof. Cook's Manual. S. Corneil.

Pointe Coupee, La., May 15, 1879.

On examining my hives a few days ago, I discovered foul brood in one of them. I had some time before transferred them into a new hive, leaving the old hive near by, and I now see the bees have removed most of the propolis from it. If bees from hives not having the disease have taken the propolis from the old hive, is it likely to produce foul brood among them? Does foul brood ever leave a hive of its own accord? I discovered three cells of it in a hive early in March. Their queen being worthless, I killed her, and before they succeeded in getting another all the brood in the hive had hatched. I picked out the few cells that were foul, and it was nearly two weeks after this before they had a laying queen. I have since examined them closely, and cannot find the least sign of foul brood. A neighbor reports hives that had it last year being perfectly free from it this; he did nothing towards curing them. I intend to cure mine as soon as the bees are gathering honey plentifully. If I don't succeed I will burn them.

WM. G. HEWES.

[In a case of virulent type of foul brood, it would be imprudent to allow the bees of a healthy colony to come in contact with any material in or about the hive that contained the diseased colony. It is recorded of our old "bee-masters" that they even changed their clothing before handling a healthy colony, after manipulating one affected with this dreadful disease. Yours was perhaps a case of what is denominated "dry foul brood." Such is sometimes reported to have been cured, or having died out of itself.—ED.]

Addison, N. Y., May 17, 1879.

In the spring of 1878 I commenced with 9 colonies. I got but little box honey, but they increased to 28, which was very satisfactory. I put 23 into winter quarters; 3 or 4 I put in-doors, the rest I left on their summer stands, packed with straw on the windward side. They came through the cold weather all right until about April 1st, and I then put them in their places. I fear it was too soon, for they have kept dropping off, till now I have only 3 left out of 23. What the cause is I hardly know. Two or three of them had no honey; the rest had from 5 to 20 lbs., and one of them had 40 lbs. of very nice honey. Most of them had but little pollen; whether this had anything to do with their dying I do not know. Some say it is the hive, but this cannot be, for I had the American, Cottage, and old-fashion box hive, also a hive of my own make, and they died in all alike. Can you tell what was the trouble?

S. B. BORDEN.

[It is a fact that rapid increase is too often followed by a more rapid decrease! Colonies that are troubled with "spring dwindling" can hardly be said to have "wintered all right." Your colonies were probably too weak to withstand the cold after they were placed on their summer stands.—ED.]

Dowagiac, Mich., June 10, 1879.

Bees are doing well here now. I see no reason why we should not have a good harvest.

JAMES HEDDON.

Lawrence, Ill., June 6, 1879.

About ⅞ of the bees in this locality have been lost during the past winter and spring. The principal cause is wintering on summer stands. I put 133 colonies in a cellar last November, and on April 1st I took out 130; have lost 4 since—queenless. I have also sold several. I have not a moldy comb in the lot; my cellar is 16 ft. square outside the walls, and in it I can comfortably winter 150 colonies. I have a ventilator which is neither more nor less than a 2-in. water conductor, extending from within 6 in. of the bottom of the cellar up through the floor into my stovepipe. The cellar does not freeze; the air is good, and bees are quiet all winter. It has been cold and backward this spring; my bees killed off the drones two weeks ago, but they have a plenty flying now. Some of them are storing honey in surplus boxes. White clover is very abundant. I prefer a good cellar in which to winter bees, to all the bee houses, chaff cushions, or any other device I ever heard of.

J. L. ANDERSON.

Winchester, Ill., May 9, 1879.

In June number you made me say, when speaking of a neighbor's bees that smothered or froze in a double-walled hive, that they had "a sack and 2 empty section boxes over them," whereas I wrote, or intended to write, a rack and 21 empty section boxes over them. The inference I desired to be drawn was that we should shut off all upward ventilation, and make our hive thick enough to keep out the frost to any extent, and we can, here at least, winter best upon the summer stand. Weather too dry, and bees slow about building queen cells. I am getting considerable honey from white clover now, but out of 23 colonies at my home, only one has swarmed naturally. From that one I obtained 6 good queen cells, which I gave to 6 strong colonies, after making 6 new colonies with the queens and most of the bees, as I find this one of the best ways to increase artificially if one has no empty combs and no queens ready for use in the old hive. Each of the old colonies adopted and fastened the cell given, and each built quite a number more, so many, that from the 6 old colonies I could have obtained cells enough to have divided the rest of my colonies; but they were such puny-looking cells that I would not use them. I am troubled with the bees building combs upwards in frames for extracting in the upper story, and crooked combs generally. Last year, as also this, they clustered badly outside in hot weather, no matter how much room I gave above brood-chamber or shade to the hive. I tried raising the hives so that the bees could fly out all around, as recommended by A. G. Hill; but in every hive so raised, I found that the moth did far the most harm. I have two of Armstrong's Centennial hives, and though shaded no more than the others, and containing very strong transferred colonies that have not swarmed yet, still they do not cluster outside. As I partly filled the upper frames with thick foundation, that may account for it. They drew it out beautifully in 24 hours, making the septum so thin as to be transparent, and raising the cell walls half way. This is my first experiment with foundation, and you may count my vote in its favor for brood and extracting frames. Wm. Camm.

Holley, N. Y., June 9, 1879.

I purchased 3 colonies of bees in the spring, transferred to the Doolittle hive about the middle of May, and used cord to tie combs in the frames. When I looked them over a week later, I found some had fallen out of place, but most of it was in good order. One colony being very strong in bees, I took off 2 surplus boxes June 1st. The weather was cold and wet during the past week, so that they could not go out much. This to me is new work, but I did not get a sting while working with the bees; but a week ago, while passing out of the yard, one stung my ear, resulting in great swelling. What can be used to check it, when ammonia or saleratus will not do it? I fed the honey, obtained from pieces of old comb at night, in tin feeders, made for the purpose, and placed in front of the entrance; they filled the brood chamber rapidly. While the cherries were in bloom, they began to work in the boxes. In helping a neighbor transfer, we used thin strips of wood to brace the combs, and all were right. In transferring I followed the instructions of Prof. Cook's Manual and the American Bee Journal. The Bingham smoker is a treasure. Any one wishing the aid of a young woman as book-keeper, and capable of aiding in their correspondence, who could teach her bee-culture as a business, for the compensation, are requested to correspond with me. Mrs. A. S. Keys.

[A tomato leaf crushed and rubbed upon the flesh, after removing the sting, is a very good remedy.—Ed.]

Indianapolis, Ind., June 8, 1879.

I wish to address the bee-keepers of Indiana and urge upon them the benefit of visiting neighboring bee yards in obtaining practical information and observing the relative conditions, etc. I am satisfied that valuable articles are not appreciated as they would be, if we were an eye-witness to the facts spoken of. We could converse individually and personally with those having made the experiments. I am in favor of National and State organizations, for if we wish to master our profession, under such conditions only can success be expected. We must take interest enough, not only to read what is printed upon the subject, but we must advance in knowledge by individual and organized efforts. I have just visited some bee-keepers, and found much distress "all along the line." While being well paid for my time and expense, by the information and conversation of experinced bee-men, I have found them unanimously in favor of holding a State Convention, and I would ask all to state their views, in the American Bee Journal, in regard to organizing one. United action will result in good to ourselves, and satisfy the desires of consumers in general. By the distribution of the pamphlet, "Honey as Food and Medicine," and in various ways we can create an interest and demand for honey. Many are as yet in darkness concerning the cause of the death of our bees, therefore, in my judgment, we could make it very profitable to meet sometime this summer, say in August, and converse on the best way to preserve our bees the coming winter. Although many of us have practiced bee-keeping for years, yet a close observer can hardly visit an apiary or converse with an intelligent bee-man without gaining valuable thoughts. I have gained many valuable ideas from my visits and conversations this season. All bee-keepers, while stopping in Indianapolis, are respectfully invited to visit either my uncle's, M. A. Schofield, or my own yard, or call on me at No. 11 Bates Block. C. S. Schofield.

[See letter, on page 300, from the Vice President of your State.—Ed.]

Nodaway Mills, Iowa, May 29, 1879.

I send you a sample of a plant that grows wild in the hazle brush here. It seems to be a favorite with the bees, and blooms about 2 weeks. Can you tell what it is, and state its value as a honey plant? My bees are doing well. I lost but 3 out of 25 during winter. My location affords both timber and prairie range. The river bottom in the fall is a sea of flowers. R. C. Aikin.

[This is the smooth water leaf (*Hydrophyllum canadense*). They would be valuable, if sufficiently numerous, as honey plants. Many flowers, like the above, are generally too scattering to be of much value unless cultivated.—A. J. Cook.]

Battle Creek, Mich., June 14, 1879.

Peter James asks for information in the June number of American Bee Journal, page 251, how to clarify wax. I put lumps of charcoal in the pan of water under my extractor, and my wax comes out a handsome canary color. B. Salisbury.

Shelbyville, Tenn., June 7, 1879.

I have tested smoker and foundation sent me in April. The Bingham smoker is good; I could not do without it. The foundation is an invention which no successful bee-keeper should do without. I have used it in the brood chamber and as starters in small frames for suplus honey, and the bees so thinned it, that was it not for the yellow appearance, I could not tell the difference in it and natural comb. Bees are not doing well in this county; it has been a hard time for them; the frost killed all the early bloom and the dry weather has injured white clover, so that the bees have stored no surplus honey as yet; from 27 colonies I have extracted 71 lbs. only. I have had but 6 swarms. J. W. Price.

Correspondence.

For the American Bee Journal.

The Harvest of White Honey.

G. M. DOOLITTLE.

Our honey harvest usually commences about June 20th, and closes from July 20th to August 10th, unless we get a yield of buckwheat honey, and in that case it closes about September 1st, we almost always having a period of nearly two weeks scarcity between the white honey harvest and buckwheat. The 4th of July is the earliest we ever took off any box honey we believe, so we will suppose that our swarming is all done up by the time this reaches you, and we are ready to look after the boxes. If you did not forget to put your boxes which were nearly full of comb in the center, on top of each hive, you will now only need to look after those to ascertain if any are fit to come off, as those will certainly be the first finished. To do this, get your smoker, gently pry the cases apart with a stout knife, blow in a little smoke so the bees will get out of the way, and you can see if they are completed. If they are, pry the cases off a little at the bottom, and then lift out gently the case holding the finished boxes, and give it a quick shake, as you would a frame to dislodge the bees from it. Shake the bees off at the entrance so they may readily enter the hive; remove the boxes from the case, and shake off from each separate box the few bees that may still cling to the honey; fill the case with empty boxes provided with starters, and put it in place again on the hive. Set your honey in your wheelbarrow or cart which you have to carry the honey to your honey-room with, and go on to the next hive, and so on till the apiary is gone over. There is little danger of robbing at this season, but if the bees seem disposed to follow your honey, keep it covered with a sheet.

In a week start over the apiary the second time, and so keep going over it once a week, being sure that all filled boxes are removed, and thus your honey will be nice and the combs as white as snow. If you use side boxes, raise the partly filled ones from the sides and put them in place of the full boxes taken off, and place the empty ones at the sides. We usually place but one tier of boxes at the sides at first, and then when the bees get well at work in them, push them out and place the other tier between them and the side of the hive, thus inciting the bees to greater activity. As the season draws to a close, we raise the side boxes to the top and close up the sides with the followers, so as to get all boxes commenced in filled if possible. With the top-box hives, we crowd the partly-filled ones together, placing the empty boxes on the outside instead of the centre, as at first. It usually takes us four days to go over the apiary in the heighth of the season, leaving us two days to look after our nuclei and attend to the many duties which devolve on the apiarist.

Store your honey in a small, tight room, placed on scantling, so that the fumes from burning sulphur can enter or pass between each box, so as to kill the larvæ of the wax moth which always appear to a greater or less extent, burning ¾ of a pound of sulphur to every 200 cubic feet contained in the room. To best do this, your scantling should be raised at least a foot from the floor, and a kettle with some coals in it placed beneath. Pour on the sulphur, close the room tight, and leave it for fifteen minutes, when it should be opened to let the smoke out, for if it settles on the combs it will give them a greenish tint, or if you burn more than the above amount it will turn the combs green. We have found it a nice point to burn just enough sulphur; if you use too much, it hurts the looks of the honey, and if too little all the worms are not killed. Burn your sulphur two weeks after the boxes are removed from the hives, as the eggs are generally all hatched by that time, and if you store all in the same room, sulphur once in two weeks till the last is off. Your honey should be assorted, as piled, into about three grades—first, second and third quality. Put nothing but A No. 1 in the first, the colored combs and the mixed in the second, and the buckwheat in the third. By this way you will be saved trouble when you come to crate it for market. In short, have an eye to business, as this month is the harvest time for bee-keepers in most localities, and leave no stone unturned that will give you a pound more honey.

Borodino, N. Y., June, 1879.

Florida Sun and Press.

Bee-Keeping in Florida.

DR. G. W. DAVIS.

Bee-keeping in Florida has not received that attention which its importance deserves. The improved hive, and modern treatment of the honey-bee has been little thought of and seldom employed in this state. Until very recently the improved stock, or Italian bees, have never been introduced. People have been content to get their supply of honey from the wild colonies of the woods or from the old-fashioned bee-gum of centuries ago.

There are many localities in the state where the apiarist might succeed, but as a whole we do not regard Florida as the best state for the successful cultivation of the honey crop. The principal drawback is a want of bee pasturage. True we have many plants and flowering shrubs and trees that afford an ample store of nectar in their season, but there is not that succession of honey-producing flowers, and such a range of pasturage as may be found in more northern states. The cotton regions and dense hammocks undoubtedly afford the best pasturage for bees; next comes the orange, palmetto, melons, etc.

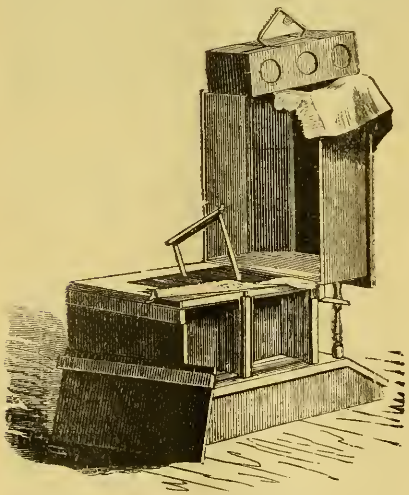
Basswood or the linden does not grow here, and the clovers—the very best bee pasturage plants—have not as yet been acclimated here. As the country becomes settled up and more thoroughly cultivated in the various cereals, fruits and pasture plants, bee-keeping will progress accordingly, but at present no extensive establishment will flourish except in the cotton growing regions, and we must be content with a few colonies in any one locality.

For the American Bee Journal.

My Winter-Protector Hive.

HIRAM ROOP.

Thinking some of the readers of the BEE JOURNAL may wish to see a cut and description of my winter-protector hive, I furnish the following description of it. After using nearly all the hives I ever heard of, this is my favorite: The frames are 10x10 in., inside measure. I have found that bees winter and spring better in this size of frame than in any other. If the colony be crowded upon as many combs as they can well cover, with the division cushion and side chambers filled with sawdust or chaff, they will winter well every time, even if placed on the top of buildings, fences, or in fact anywhere. This hive is also a non-swarmer, if the colony be started in the side chamber at the right time. It has four side compartments and one rear compartment, with three frames in each, making 15 frames around the hive proper. The latter takes 12 of these 10x10 in. frames. I had 12 colonies in this hive last season, and they gave me less trouble and more honey than any other 24 colonies. I use 10x10 frames in all my hives. It is public property, and all may freely use it, who desire to.



Roop's Winter-Protector Hive.

Carson City, Mich., May 18, 1879.

For the American Bee Journal.

Shipping Bees—Their Endurance.

GEORGE E. STEELE.

I have lately had a little experience in shipping bees, and can probably give your readers the best time on record. They were transported 242 miles, all the way as freight, and were exactly two weeks in confinement. Take off the express!—no use for that now. But be sure and have every man understand, in the first place, that he is to make all the mistakes he can. No other need apply.

But how about the bees? I sent to James Heddon, of Dowagiac, Mich., for 4 colonies of his best Italians, knowing, too, that his frames were just the size I wanted, which is a point gained. He shipped them precisely as ordered, taking much care in selecting, packing and shipping. How they came as freight and the long delay, I will not stop to explain. It is the packing which is most important. The entrances were fastened by the entrance blocks nailed over them; the frames nailed down at each end and cemented by propolis besides. Frames should not be disturbed just before shipping. On top of the frames, at one end, was fastened a large piece of burlap or coarse cloth, folded several times and saturated with water just before starting. This will give a supply of water for any ordinary journey. The upper stories and covers were sent separately, and in place a frame 2 in. deep covering the entire top of the hive, was nailed on, having a covering of wire cloth. Across the center of this was a narrow strip strongly nailed on outside to prevent benighted express or freight men from piling one hive on another and smothering the little travelers, as well as to afford a sort of handle to lift the package by.

Result: Owing to all the above precautions, notwithstanding fate at one time seemed to be against them, the bees arrived in quite good order. Larvæ and eggs were mostly out, either hatched or destroyed, and a mass of rubbish in the bottom, but the queens were alive, and so many bees, I wondered where they could all have kept themselves—a small amount of honey. In an hour from opening them some were bringing in pollen, and the next day eggs and honey were scattered "promiscus." Not a broken comb could be found. I suppose Friend Heddon does not believe in "predestination," but when he packs bees it means "destination" to them, no matter what mistakes are made in transit.

Elk Rapids, Mich., June 11, 1879.

For the American Bee Journal.

Swarming, Wintering, etc.

JAMES HEDDON.

I have carefully read and re-read the able articles on these subjects by Messrs. Dadant and Doolittle. I call them able, because they coincide with my ideas, experience and management, to a great extent, and I mean by able that which is true to nature, and of course I think I am on the right track, or I should get on another immediately. There are a few points, however, in each of these articles that I wish to look after a little, and state where these gentlemen would be wrong, in my locality.

Should we cut out all our drone comb, as Mr. Doolittle suggests, our bees would cut away worker comb, and rebuild the space with drone-sized cells. If Mr. D.'s bees will not do this, he should soon be through his June pruning. My plan for keeping up my blood, is to cut off the heads of pupa drones that are of bad traits (not rings), and keep less drone combs in the least desirable colonies, and more in those of choicest habits. Poor colonies soon become so scarce that but little labor is required to doctor them so as to prevent their increasing their kind.

I have tried the plan of artificial swarming (just this one that Mr. D. prefers), but I have 3 objections to it:

1st. At any time after dividing is admissable, if we put a whole working force into an empty set of combs, the bees desert the boxes placed thereon, and fill the combs with honey, crowding out the queen. This is just when we have no time or desire to "extract." We, like Mr. D., are after comb honey, and are very busy. We can get more box honey without these combs than with them; more extracted honey with them.

2d. Natural swarms work with an inspiration and satisfied air that is pleasant to see and profitable to enjoy that no other system of increase can boast of.

3d. Natural swarms are not near as liable to re-swarm as artificial ones. I suspect that the queen considers a wing exercise, at least once a year, her legitimate right.

Mr. Dadant says about what I have thought to be true, that "uneasiness and dissatisfaction" are the causes of swarming.

Where there is much swarming done by the same season's swarms, you will notice that those colonies re-swarm much more that have clipped queens. The workers evidently are jealous of them, or are, to say the least, "dissatisfied" with only a fraction of a mother, be it ever so much of a majority. I agree with Mr. Doolittle in regard to small hives, and cut my 10-frame Langstroth hives down to 8 frames 4 years ago.

It is hardly possible to lay down any fixed system of management that will work equally well in all localities. Hon. Geo. E. Steele, of northern Michigan, who recently visited us, says that propolis is gathered in such quantities there that it is almost impossible to use boxes within frames. So it will prove to be with many other arrangements and principles.

Who will be the first to devise some cheap method, that is off-hand, reliable and practicable, to run a half dozen apiaries, with no loss from unattended swarming?

WINTERING

is again agitating the pages of the placid old AMERICAN BEE JOURNAL. From my experience with this "cholera" or intestinal winter disease, it sounds to me simply ridiculous to hear men talk about their "great neglect and consequent loss;" "bees too damp;" "too cold;" "were housed;" "were not housed," etc. I will now give you a statement very close to the exact facts, as to how bees wintered within 6 miles of this place:

J. V., 4 miles south, in the fall had 21 colonies left carelessly on the summer stands; 19 came through all right, 2 died from lack of stores; no cholera.

A. H., 6 miles southwest, had about 20 colonies in plastered bee-house, above ground and above freezing; loss over one-half.

Mr. H., 2 miles from A. H., had about 16 colonies; uncared for entirely; no loss and no disease.

Mr. A., 4 miles southwest, had about 40 in special repository above ground; loss nearly one-half.

Mr. S. M., southwest 7 miles, had 15 colonies; no care; lost 12 of them.

R. C., 2 miles west, lost over one-half; all were packed with straw and chaff.

T. E., 6 miles northwest, had 12 colonies; lost 2 from lack of stores; no disease, and no care at all.

J. H., 4 miles north, had about 40 colonies; 5 or 8 alive; no care.

Mr. C., 4 miles northwest, had 15 colonies packed, or protected with cornstalks (I cannot ascertain which); lost 14 of them.

Mr. D., of this place, had about 20 colonies (black bees); lost all but 1 or 2; part were packed, and part in cellar.

A gentleman about 40 miles north, packed 94 colonies scientifically in "chaff;" all but 2 were dead long ago, and how those are coming on I cannot say. I would kill them, and either look for another bonanza, or try our only remedy, viz: Breeding up a race that can keep well, or that can get sick without dying.

I have stated the facts as nearly as I can obtain them, and leave you to form your own conclusions. After 3 years' experience with this death among bees, I (almost alone) pronounced it a *disease*. I was laughed at by nearly all bee-keepers, but not convinced to the contrary, as nearly every one had a different way of accounting for it.

Dowagiac, Mich., June 1, 1879.

For the American Bee Journal.

The Season in Alabama.

JOHN R. LEE.

The mortality among the bees in this county has been very great, fully 50 per cent. are dead. Situated as we are, in the Sunny South, it would be reasonable to conclude that they should winter with very small loss. Usually this is the case, but last season we had a very severe drouth that dried up all the flowers, reduced the bees to the starving point, and but for the astors that bloomed in October, the race of bees would have become nearly extinct.

Many good combs are left, which if properly cared for, will be a great help in building up again. Every apiary should have some good place to keep empty combs secure from the moth. Some argue that we are past the brimstone age, but I think otherwise. It should not be used to kill bees, but to kill moths and their eggs. A large quantity of valuable comb is lost every year by carelessly leaving them exposed. A good way, is to place them in a tight box, 2 or 3 ft. square and 3 or 4 ft. high, so arranged as to take the frames as they hang in the hive; occasionally burning brimstone under them. In this way they can be kept ready for use.

Bees commenced carrying in pollen on Feb. 11th, nearly a month later than last year, but we are now having honey-dew nearly every night. I first noticed the bees humming about the peach trees early in the morning, and as there were no blossoms, they were carrying in honey-dew. A box-elder tree in Huntsville, was literally covered with this sweet substance; many of the leaves were covered with a green louse or aphidæ, but whether they produced the honey-dew, or whether the sweet attracted them, is not settled with me. If their eating the leaves causes the sweet to ooze out, why is it not found on the underside of the leaves? These insects I found on both sides, while the honey-dew on this box-elder tree was all on top of the leaves, and no painter could have put it on more evenly. At first sight, they appeared as if they had been smeared with grease; the taste was too sweet to be pleasant. I noticed ants and flies helping themselves to the feast. The bees are building up rapidly, and since May are beginning to swarm. Last year our first swarm was on April 12th.

Huntsville, Ala., May 11, 1879.

For the American Bee Journal.

Preparation for Wintering Bees.

A. E. WENZEL.

This is an absorbing topic among apiarists, and many knowing ones enthusiastically make known their peculiar modes of protection, prematurely —"counting chickens before being hatched"—all in accordance with their own personal conveniences and situations as best afforded, but still no fiat law to govern wintering bees satisfactorily as the best mode, under the varying circumstances, has been determined, for it has to be yet practically tested for a series of years, with this end in view, by special direction; for all reports however faithful, seemingly independent, have a taint of chance.

I, too, fell into the rut—you will pardon me—but thinking "discretion the better part of valor," not knowing what might take place between "wind and water," deferred, but can now conscientiously report for myself, for last winter, in three words, "unprecedented good luck."

Looking back over a series of fifteen years of bee-keeping, I have known experiences, trying in the extreme to myself and family, while having only a few colonies in primitive hives. One time I was willing to discard the industry as a nuisance; but having a number of colonies kept on shares, that, too, resulted in like experience to my own —no returns. Such harrassing events I weathered through by dumb luck, till accidentally I fell in with your valuable Bee Journal, and now in this same locality, my family experiences no inconvenience; on the contrary, a pleasure, especially the view of a minature village, because we know now in a measure, how to compensate for those evils, where formerly ignorance in manipulation would lead us into the grossest excesses of carelessness.

Your valuable Journal brought me *vis-a-vis* with this blundering, haphazard manner of doing things, and induced me to seek the National Association last fall, in New York City, where I was immediately convinced, upon viewing honest, intelligence countenances, that the highest attainments in practical and scientific bee culture was paramount, and that it was specifically other than for mutual admiration, or for a species of political place-hunters. Its dignity was so far up, and, too, with becoming propriety, that I dared not "open my mouth for fear of putting my foot in it." But I did venture after a time, while occupying a back seat, to make a statement of what I proposed to do to winter my bees (some 60 colonies), when several members turning around, looking me square in the face, I hurried nervously into my seat, but their voices came immediately and spontaneously to my relief, saying, "You are sure to winter successfully!" This assurance, coupled with my own practical evperience in other ways, by making frost-proof partitions in barn stables, was the incentive to prosecute it diligently.

The cost per hive for frost-proof protection I adopted was about 10c. Time required to place same in winter condition, on summer stand (say 50 hives), was, for two men, about 1½ days' labor, and to resume summer garb this spring, took of my own labor about 7½ hours in all, with cleaning up all debris in and out of hives—allowing the buckwheat hulls to scatter over the sward ground, where the bees industriously gathered pollen from the little particles of flour adhering, reveling on the same in sunny early-spring days.

My mode is substantially as follows, viz: A projection upon hive (which may be permament or temporary) is grooved, wherein to insert a thin board, allowing about 2 in. space to be filled with buckwheat hulls—these are better than chaff, I think, as they settle readily into all interstices. This upon four sides, with little slanting roof-boards above to ward off the rain, while the opening to the hive should be guarded by a similar board, to prevent clogging the entrance. About 1 in. up from the bottom board, over the top of the frame I placed a tight box, about the size of a brood-chamber, 2½ to 3 in. high (with dove-tailed ends, allowing them readily to be put together); then place wire-cloth strips, about 1¾ or 2 in. wide by 12 to 15 in. long, bent semi-circular like a long trough, over and across the holes in top bars, with a piece of muslin, 18 to 20 in. square, laid carefully over all. This fitted in the depth of the box above, lightly pressed into the corners, affords a winter passage underneath for the bees to pass to and fro, without exposure and without currents of air, giving an extended surface of buckwheat hulls to absorb the moisture. This runway, upon favorable weather in winter, reminds one of a busy thoroughfare, and I claim this upper protection of paramount importance, in wintering bees on summer stands, upon any and all hives of whatever construction.

After the buckwheat season last fall, I displaced the surplus boxes by putting enameled cloth over the holes, till cool weather came, when moisture might be condensed therein, when I replaced the same by fixtures as described above, without disturbing the frames, or even considering the amount of winter stores. When late in April, relieving them of these fixtures, I found all, with one exception, prosperous, and this one was robbed—not dead; and what is more, the floor of the hives were uniformly clean, except a little in the front corners, where some dry refuse with a few dead bees were gathered, and no signs of dysentery were discernable anywhere. This I attribute to my leaving the bees severely alone in cold weather, for I did not disturb the snow when hives was drifted under them, except upon nearing warm weather, when it was liable to settle down and freeze up the openings; then I caused the snow to be cleared away from entrances.

In moving the buckwheat hulls, that upon the outside of the hive falls off without difficulty, while that on the top of the frames, by gathering in the four corners of the muslin cover, is easily lifted off without in the least encumbering the bees, and the hulls readily drop away upon the ground, or into a convenient receptacle for safe keeping. The muslin cloth is then placed over the frames, till required to be superseded by surplus boxes, for the summer season.

I noticed a few peculiarities for last winter, which succeeding winters may demonstrate more fully, viz: That formerly when my bees had no care, but their own, under adverse circumstances, when taking flight, which would be frequent upon mild, sunny days, they would discharge their feces indiscriminately upon everything—soiling, perchance, "a washing" upon the line,—besides perishing in great numbers on the snow. But this last winter, my bees did not act so; lost but few on the snow, and I have noticed but little of their feces being discharged anywhere; particularly, their combs all look clean. This may be a good indication; but then the question arises, What becomes of the feces?

Another thing I noticed, when delivering a few colonies sold early this spring, to be taken on sleighs a long distance, upon examination by removing the top protection, I found a moth worm on two respective hives. This was the first mild day of spring. What should this denote?

Callicoon, N. Y., May 3, 1870.

[Very rarely do bees discharge their feces in the hive, unless diseased or disturbed, hence their combs *should* all be clean; and as they were not diseased, they flew so far away from the hive before relieving themselves, that you did not notice it all. The moth worm you speak of had, no doubt, wintered over in some stage, or it would not have been there so early in the spring.—Ed.]

For the American Bee Journal.

How I Catch Swarms.

ROBERT CORBETT.

For the past 10 or 12 years, I have not cut my fruit trees to catch swarms. I get an ordinary sized basket, and nail a ⅜ in. board on the bottom, with some suitable springs under it; then bore a hole in the center, and put an iron down through, with a loop on the top and a nut on the inside, and screw it fast; buckle a strap, 6 or 8 in. long with a snap on it, in the loop. Have a pole, cut from the edge of a 2-in. plank, dressed any length, from 8 to 10 ft., with a ferule on each end and ¼ in. iron rod 16 in. in length; take a small ring, and bend an eye on the end of the rod, with the ring in it; taper the other end, and make it secure in the end of the pole; then curve it so as to project it 6 or 8 in., in which snap the basket catcher.

To use it, push it among the branches of the tree which the bees are making for, and if they do not light upon it, when they begin to cluster, put the catcher up against them, and when you get part of them on your basket, move it a little away and toward the branch that they are on, and they will all settle on the basket in 5 minutes.

To complete the pole, get a ½ in. rod of iron, 12 in. long, tapered at each end, and secure it in the lower end of the pole; and when the bees begin to settle on the basket, stick the spear in the ground and let it stand, while you are preparing the hive, etc. Then take down the pole and unhook the basket with bees, which may be carried any distance you wish. Shake off the bees on an open sheet, in front of the hive, showing them the way, and they will go in faster than a flock of sheep into a yard, after the gate is open.

Malden, Ill., May 1, 1879.

For the American Bee Journal.

The Cause of Dysentery.

J. O. SHEARMAN.

What causes dysentery? Too much cold, poor honey, moisture or moldy combs. But how about prevention in such a season as this? In all hives I have examined, where the bees died of dysentery, either this season or 2 years ago, I found dead brood in some of the combs, with more or less punctured caps. The latter is one indication of foul brood, but the combs and honey have generally been used, after warm weather came, with no bad effect. I was at the Michigan Convention, in Kalamazoo, the May after the great fire, and heard Mr. Rood say that the cause of the death of his bees was beyond his knowledge; he never saw or heard of the like before. Many in this section, also, lost heavily, and laid it to the smoky atmosphere, the fall previous. Some claim that it is a disease.

I generally winter successfully, and thought I knew all about it. But this season takes the conceit out of many of us. By the time we get out of the woods, some of us won't feel much like whistling. It is often asked, "Why did not bees act so, years ago? We never heard of so much trouble in wintering, until within a few years." I have an opinion upon these points, and would like to express it, with a view of bringing out the opinions of others through the Journal. I believe in cause and effect. We have the effect (an accomplished fact); now, for the cause:

1. Anything that causes unusual excitement in a hive, without the privilege of voiding properly, *i. e.*, on the wing, conduces to dysentery.

2. Sudden changes of temperature causes excitement among the bees, if shut in. An unusual amount of breeding causes excitement, as the bees want to feed them and carry water. A bad smell in the hive causes excitement, and is the most fatal of all causes. Sour honey also causes excitement, as it physics the bees and makes the air foul.

My bees were contented, so long as the steady cold weather held on. All the hives had live bees in, when winter broke up. Now, April 17th, my loss is 26 per cent.; the largest colonies suffered first, while the moderate-sized ones generally and some pretty small ones, came out all right. Why? The large colonies gathered more late honey, which kept sweet until mild weather began, then soured. We had a very cool fall, and colonies that had much of this late honey did not have warm weather enough to work it over and thicken it. In February we had a thaw, a few days of quite warm weather, that caused the bees to breed; many of them starting more brood than they could cover and feed, when the cold weather came, shortly afterwards; therefore, some of the brood died, but did not do so much harm till mild weather came again, when it caused a foul smell, then consequent disease.

In this connection, allow me to state a mild doubt, whether there is any such thing as a regular disease of foul brood, except from some such cause. Langstroth states foul brood to be catching, only by the use of the honey. Why? The dead bees and decaying brood generate a sickening stench that permeates everything it comes in contact with, and has much the same effect on the system of the bees, as the smell of a patient in typhoid fever, in a close room, has upon the human system. Therefore, the bees will die off, even after the mild weather sets in, and the warmer the change at first, the greater the mortality for the time being. Clean out the hive, and disinfect it as soon as the weather becomes warm enough safely do to so.

Two years ago, we had a very warm spell in February, which caused the queens to lay, and some showed the same symptoms that occurred so frequently this spring.

A friend, in an adjoining county, wrote me that his bees were dying at a fearful rate; I went over there, and found them in a bad plight. I cleaned them out, but he finally lost 32 out of 43 colonies. When I got home, I found some of mine with the same symptoms, scattering dead brood in the combs, a bad smell, and some bees dying. I picked out one of the worst, and sprinkled the bees and combs with a solution of salicylic acid, saleratus and water; repeating the dose in about a week, when they then appeared much better; they finally got well, and built up to a good colony again, with no return of the same symptoms last year.

If foul brood is a separate disease, will some one experienced in it, please give the primary cause, and also how much difference there is between that and this year's run of dysentery? In a back number of the JOURNAL, a professor in Germany gives the result of some experiments he made with foul-brood combs. He demonstrated that the dry mold gave off spores or particles that float in the air. But I doubt if the proof was conclusive, that those spores generate the disease. If some lucky (?) brother will send a little of such diseased comb, I will introduce it to a colony, for the sake of what knowledge may be derived, and publish the results. Or let some one else experiment further, and report in the BEE JOURNAL.

New Richmond, Mich., April 17, 1879.

For the American Bee Journal.

Primitive Home of the Italian Bee.

T. L. FRASER.

In endeavoring to fix the primitive habitat or place of origin of the Italian bee, considered in his wild or indegenous state, we could offer only vain or speculative reasoning of little practical utility to the apiculturist, who seeks to attain that purity of type or standard of character upon which the intrinsic value of that variety of the honey bee depends; but if we can succeed in showing that the honey bee of the Greeks and Romans, as described by Aristotle, and Virgil, and other Greek and Roman writers, was the one whose description specifies, at the present day, the best samples of that variety now in so much demand with practical honey producers, as well as the bee-breeder whose office it is to seek to elevate the standard of its purity and usefulness,—I shall have gained a point upon which to base its further improvement. In other words, if it could be made apparent that the bee cultivated by the Romans, and in common use among that people during the reign of Augustus Cæsar, and for an indefinite period antecedently, is the one that best answers to the description of the purest types or samples of the Italian bee of the present age, a point would be gained in discussion which would at least serve to direct the attention of the bee-culturist to the precise locality where the probabilities are in favor of its having existed in its greatest purity, through the successive ages which have intervened between that time and the present.

The original habitat of this, and the other varieties of the honey bee, as I have said, is not relevant to the point at issue, as most authors are agreed, I believe, that it is the torrid zone ; but the domestic and political history of the different nations and countries, where the German and Italian bees have been domesticated and made an object of attention and care from a very remote poriod in history, have a very important bearing in determining the probabilities in favor of a locality where it may have existed in its greatest purity. The present existence of the many varieties of the honey bee, mentioned by Mr. Frank Benton in a former number of the BEE JOURNAL, as inhabiting the countries of Southern Europe and the Levant, testifies to the intricacy of the subject, and leads us to the conclusion that if such numerous varieties of the honey bee exist in such close proximity at present, that in former times it would have been exceedingly difficult, considering their habits both in the domestic and wild state, to preserve any one kind or variety pure.

Aristotle mentions three kinds, and Virgil two, but as the one described by each as in common use in their respective countries, answers to the description of the present Italian (of bright golden color) or Ligurian, we may conclude that the ancient boundaries of the countries, whose inhabitants spoke the Greek and Latin idioms, constituted the true inhabitat of the Italian or Ligurian bee, not only during the dominance of the Pelasgic races, but subsequently, for the following reasons:

So long as the Pelasgic or Helenic race preserved its integrity and political domination, its domestic and social institutions perpetuated by hereditary usages, and that insulation which was almost a stranger to exterior commerce, it is presumable that the Ligurian bee was perpetuated in its purity and character in the same manner that the German or black bee was among the northern nations of Europe ; and that whilst the Ligurian bee was extended in its domain by the arts of the domestic and civilized culture peculiar to the Greeks and Romans, the black bee was enlarged by that spontaneous emigration eminently instinctive in both varieties, and keeping company, from a similar instinct in human character, with the Sanscrit, Aryan and Germanic races, and probably, like their human masters, developing their history from a Hindoo or tropical source.

If this be true, is it not probable that Apis Dorsata is the common father of his less robust, but equally industrious descendants of Europe ? Is not this the more probable, from the consideration of the fact that domestic gentleness is the result of long continued domestic culture and usuage ? How much more gentle and docile the true Italian bee than the wild German, addicted to its native forests ! One of the first and most striking peculiarities of the black bee, to the novice in bee culture, is the wild and perturbed state of both the queen and worker, when he opens a hive to handle or observe them. How different the domestic turkey from his tougher and more agile congener of the forest, though having but 300 years of domestication !

But my purpose is to show that Central Italy is the best source whence to obtain the Italian (or, if you choose, the Ligurian) bee, and whilst praying prosperity upon all bee-culturists, including venders of queens and nuclei, candor and prudence impels me to proceed to the point.

Separated from the rest of Europe by that, to man, almost impassable barrier, the Alps, Italy is and was insulated from the immigrating inroads of most of the insect races, excepting that boundary which was such a formidable barrier to human aggressors, and consequently, for thousands of years, the black or German bee has been trespassing upon his equally aggressive, but more docile neighbor of Itaty, and *vice versa*, so that as a natural sequence, the bees of Northern Italy are hybrids, and although they present the three-banded test, they are obviously of a darker color than those of Middle and Southern Italy. So convinced I am of this fact, that to import a queen from Northern Italy, unless she is carefully and specially derived from a pure source, is in effect to obtain a hybrid mother from which you vainly expect a pure stock of Italian bees, and consequently have to display great care in selecting queens and drones, in order to get anything like a fair sample, spending years of toil and care to obtain that which ultimately is but a hybrid still.

Tuscany and the Roman States, it is believed, perpetuated the ancient Italian bee with a tolerable degree of purity, but even in those States the American purchaser of queens and nuclei upon which he stakes his credit, honor and interests, cannot be too cautious in his selections.

Had the Vandals, Goths, Lombards, Heruli, etc., been addicted to a settled instead of a nomadic mode of life, they would probably have imported the black bee into Italy, when they overran that country, but nations or hordes of their habits would not be apt to encumber themselves with such an appurtenance, however fond they might have been of the sweet product of the insect, and to this simple reason or cause we are indebted for the preservation of the Italian bee in a tolerable state of purity.

Santa Ana, Cal., May, 1879.

For the American Bee Journal.

Habits of Wild Bees.

JOHN MURRAY.

The following extract is from "Chambers' Journal," and may be of interest to the readers of the JOURNAL :

Some wild bees are what is termed solitary, otherwise social. Solitary bees pair, and each pair has a separate nest. Social bees live together in large communities, after the manner so familiar to every cottage gardener. Solitary bees are often gregarious, that is, flock together ; in fact, no insect is fonder of society. Sandy tracts are the most frequented by them, more especially commons and sand-pits. The most usual habitat for solitary bees is a sand-pit ; there one may see them busily driving their fairly-like tunnels into the perpendicular face of the bank, with an energy and perseverance well worthy of our imitation. It is a very pretty scene, and not soon to be forgotten. Thousands of little insects are ceaselessly toiling for the sake of their young ones ; all over the face of the pit may be seen countless holes, so beautifully rounded as to give the impression that they have been all formed by one tool. Here is a bright-looking little bee busily opening a fresh tunnel. Watch her for a moment, digging and shoveling, while down below there springs up a little mound of fresh sand, scraped out of the burrow by the hind legs of the toiler. A little further on is another burrow ; the hole is beautifully circular, and the little heap of sand below is larger and dirtier, showing that some hours have passed since the nest was finished. Suddenly down pops a pretty female bee close by the entrance to the tunnel. How active she has been ; her body and legs are covered with pollen dust, which gives her a yellow hue. She is a little tired after her morning's work, and rests awhile sunning herself on the face of the bank ; very soon she runs quickly into her burrow, and disappears from view. At the farthest end of the tunnel is a circular cell, carefully hammered around the sides and made firm by a kind of glue, to prevent a fall of sand. In the middle of this cell is a round pellet of pollen and honey, and on this ball of food is placed the egg, whence in time will emerge a hungry and ravenous grub.

Some of our wild bees are called "artificers," and their life-histories are among the most interesting of all. These are the plasterers, who belong to the genus Colletes ; a word signifying "a plasterer." The plasterer bees burrow in sand or in the interstices of old walls. They are pre-eminently gregarious insects, enormous multitudes congregating together in one spot. They drive tunnels slightly larger than their own bodies, and having excavated the material in which they burrow to the depth of 8 or 10 inches, they begin the task of finishing. They possess beautiful two-lobed flat tongues, with rounded ends. These tongues serve the purposes of trowels, and by the help of them they plaster up the walls of the interior of their tunnels with a peculiar fluid secreted in their glands. This soon hardens, forming a membrane more delicate than the thinnest gold-beater's skin, and resembling in its gloss the slimy path of a snail. Three or four of these membranes are successively formed, one inside the other, and the cell is then stored with honey and pollen ; an egg is laid, and the cell is sealed up with a cap of the same material. When completed, each is somewhat thimble-shaped, and several being formed in the same burrow, they fit most beautifully into each other, and furnish us with an illustration of insect architecture.

The mason bee, belongs to the genus Osmia. Although they are called mason bees as a group, some burrow in the earth and some in the pith of bramble sticks, but nearly all of them construct a kind of stone for building their cells. They are pre-eminently spring insects. The most common species are often abundant when the laburnan is in flower. The habits vary according to circumstances, and its nests are found in nearly every situation. Two kinds of mason bees choose empty snail shells for their homes. In selecting a shell the bee sometimes pitches upon an unusually large one, with a very roomy whorl. In such case she fills the space by forming two cells side by side, and when she reaches the opening of the shell and finds the mouth of the whorl too large for this device, she constructs a couple of cells transversely. One species of this interesting genus, found in Perthshire, Scotland, forms its cocoons in the hollow cavities beneath flat stones. A stone was found at Glen Almond, 6x10 inches in size, with 230 cocoons adhering to it.

Some wild bees do not make any nests of their own, but inhabit the homes of other species. Such bees are called parasites ; a name borrowed from the well-know social character, sometimes called sponges. Whether they are really parasites in the sense of getting all they can from others, is not known. Some parasites habitually accompany particular species, in whose nests they are invariably found ; others frequent the nests of a variety of species. Again, some of the parasites are so like their landlords, that a suspicion attaches to them that they deceive them by the similarity of their appearance ; while on the other hand, some are so different that no industrious bee could possibly mistake them for its brothers and sisters. The most probable use these parasites serve, is to prevent the waste of surplus food, as nature everywhere provides scavengers. These insects are true nomads, for we find them everywhere in the bright days of May, in fields, lanes and woodland. Industrious bees vary in the manner in which they treat their lodgers. Some live with them on friendly terms, but others never meet them without picking a quarrel.

Conventions.

Lancaster County (Pa.) Convention.

This Association was convened on May 12th, at Lancaster.

In the absence of President P. S. Reist, the chair was occupied by Vice President J. F. Hershey, and F. R. Diffenderffer was appointed Secretary *pro tem.*

Reports.

J. F. Hershey, of Mound Joy, said he wintered 70 colonies and 17 neuclei in doors. They came out well; he lost none at all: they are storing honey fast. The house he quartered them in is partially underground. A place four feet deep was dug; in this a frame shed eight feet high was erected. The earth was partially banked up around it. There is plenty of ventilation. The house is dark, and the temperature was from 40° to 45°. The combs do not mold. There is six inches of saw-dust on the roof, on the floor and on all the sides, thus absorbing all the moisture and keeping the house dry. Mr. Detweiler, a neighbor, has a house of the same kind. He wintered 75 colonies and lost none. His 70 colonies were put in on December 10th; taken out March 10th for a flight, and put back until April 7th. The operation consumed only 80 minutes.

D. H. Lintner wintered 13 colonies on summer stands. Lost four in January and February by dysentery, as he thinks. They were housed near a gate and in rather a damp place. To this, and the continual slamming of the gate which disturbed them, he attributes the morality. He cured the dysentery in other colonies by giving them oil of ainseed. The dead colonies had plenty of honey, but the combs became moldy.

E. Kreider wintered 14 colonies, losing two. Those left are strong and storing honey. He put chaff around two that were weak; these are now among his strongest colonies, and are storing honey.

Henry Shiffer wintered 38 colonies on the summer stands. They are all in excellent condition. He put corn fodder around those on the north side, and boards on the top. He fed some of the weaker ones last fall; as they had only a few pounds of honey, feeding was necessary.

I. G. Martin, of Earl, wintered 29 colonies, packed in chaff. They came out this spring in good condition. Some were weak, but they also came out all right. They did not fly often; once in January and again in February. So far as he knows, all the bees in his neighborhood have come out well.

John B. Eshleman wintered 30 colonies; he lost two, one becoming queenless, and the other for want of honey before he found out they were short. His bees are in good condition, and storing fast. He wintered them in a shed protected from the north wind. He thought a strong colony will pass the winter with but little protection. Wintering them warmly will give more brood early in the season; that is the advantage of housing them warmly. If bees received the proper attention in the fall, by taking all the frames but such as they can cover, and then add them again as they are needed in the spring, we should no doubt do better.

Jacob Gorgas has several colonies that will be ready to swarm at an early day. His bees have gathered much honey already; and are busily at work. He wintered 8 colonies, and has them all.

J. H. Davis wintered 27 colonies on summer stands. One he packed carefully and came near losing it. He gave them less protection than last year and had better results. He believed with Mr. Hershey that if bees were housed, honey will be saved.

Peter S. Reist has 50 colonies, and with nothing but a little protection against the cold winds, they all came through safely.

Mr. Hershey reported a New York man who saved only a dozen out of 60 colonies, and others in the same State who met with equal losses. Here we have had no losses comparatively.

Henry Huber thought bees ought to have more ventilation in winter than in summer, and he proceeded to relate an instance in confirmation of this fact. Currents are fatal to bees, but a chaff cushion on the top of the frames will absorb all the moisture.

The Price of Honey.

Peter S. Reist thought the members should consult with each other about the price of honey, as there is a probability of a considerable supply for sale.

J. F. Hershey. I shall ask 20 cents. If we put our honey into good shape we can get more than the California product sells for. If the crop is good we shall get less; if small, a higher price can be obtained.

Mr. Gorgas reported some of his honey granulated in the combs. He asked for a remedy, and was told it was because of the cold, and that warm weather will remedy it.

What Causes Dysentery in Bees.

Mr. Davis thought long spells of cold weather caused dysentery. If bees get an occasional flight they will be comparatively free from it.

Mr. Hershey thought cold and bad honey were the main causes. Bees must consume a certain amount of honey to keep up the heat. A weak colony consumes too much honey to keep up the animal heat. If confined too long they will get the dysentery, even if they have the best of honey. A strong colony may be confined longer, as they have more bees to keep up the heat. It is not necessary for each bee to consume as much honey as if the colony were weak.

Mr. Eshleman. If cold affects one colony in this way, why are not all affected? You may have this disease at all seasons among bees. He believes it is in the food they get. He believed a cider mill has bad effect on bees.

Mr. Hershey said his weak colonies made just as good honey as his strong ones, and that nevertheless they got the dysentery.

Peter S. Reist had authority for saying sweet cider is not injurious to bees, but sour cider is. They may also be other foods that are unwholesome, causing this disease. Besides, it may be contagious; one hive may infect others.

Will a Virgin Queen, if She Meets no Drone within Ten Days, Prove Fertile ?

J. F. Hershey had queens that did not meet drones within eight days and became fertile afterwards. He thought even fourteen days was no bar to fertility, although six days was the usual period for the queen to emerge, but bad weather may retard the flight.

Henry Huber quoted Langstroth, who was rather against the above theory. He has had experience that makes him believe fifteen days are not too long.

I. G. Martin had a queen two years ago which had a defective wing, and could not go out. She began to lay at the end of twenty days, and the brood were all drones.

Do Queens Become Fertile Except on the Wing ?

Mr. Davis had a queen that could not fly. She came out several times and became fertile. The general theory, however, is that they cannot become fertile unless they take flight to meet the drones.

Introducing Queens.

Mr. Hershey gave his method as follows : I first remove the queen from the colony where I want to put the Italian queen. I put the Italian queen in a wire cage, and put a stopper made of comb that the bees did not breed in yet, in one end of the cage, the other end I pinch together. Now hang the cage with the queen between the combs near the brood, so that the bees will cluster on it. If the stopper is not made too large and pressed too tight together, the bees will liberate the queen in 24 to 36 hours. If the honey is plenty in the fields and the bees store pretty fast I take the cage out the third day after I have put the queen and cage in. If the honey is scarce the bees store very little, I wait one week before I take out the cage. I don't disturb the colony at all for one week. The bees will liberate the queen in a few days and she will lay just as well with the cage between the combs as if the cage is out. If the cage is taken out as soon as the bees have liberated the queen, then she has not commenced to lay yet, is light and wild, and will run over the combs. The bees will pursue her, and then she tries to get loose ; will be surrounded, and the bees will smother her. As soon as a queen moves fast over the comb, the bees go after her. If it is their own reared queen, they want her to move slowly over the combs. If a colony is not disturbed in one week after the queen is introduced with the cage, then she will be out and laying ; she is heavy with eggs, feels at home, and will move slowly over the combs. A great many of the queens that are killed when introduced, are killed on account of the colony being disturbed before the queen has commenced to lay. Queens that are shipped and have stopped laying for three or four days, are harder to introduce than queens that are just changed from one colony to another in the same apiary. The best time in the day to introduce queens when honey is scarce is in the evening, just before the sun sets; then nearly all the bees in the other colonies are at home, and if they would try to rob, night would soon overtake them. The next morning bees that were disturbed by the introduction of the queen will be ready for a fight if strange bees should come. If the honey is plenty in the field a colony can be opened at any time in the day with safety, to introduce a queen.

I. G. Martin reported a failure by this plan—the first he ever had. His method was the same as that of Mr. Hershey.

Mr. Davis said it was a difficult matter to introduce a queen in the fall. At other times there is no trouble. He thought it was not so difficult to introduce a queen to black or Italian bees as to a hybrid colony.

Marketing Honey.

I. G. Martin read the following : Marketing honey is of great importance to the bee-keeper. If we have but a small number of colonies we can find ready sale for our honey at home, and it is not of much importance in what shape it is put up. But if we have a large number of colonies and get thousands of pounds of honey, we must have some other than the home market. Honey to be sent to the city market, must be put up in neat and attractive shape, and so arranged as not to give the dealer any trouble. One leaky box or can may do great injury. Comb honey should be chiefly in small sections of one and two pounds each, for such packages are sure to sell. They should be clean and white ; the honey should be taken from the bees as soon as it is capped, for if it is on the hives long, after it is capped, it will get dark-looking by the bees traveling over it. By having it in sections which only contains a single comb, the consumer can see what he buys. These sections can be glassed if the market demands it ; but I think it will sell better without glass, because if the consumer wants to buy a few pounds of honey, he does not want to pay for one-fourth weight of glass, which he cannot eat. I think the two-pound sections are preferable for the following reasons : the bee will store more honey in them than in the one-pound sections, for by using the one-pound sections the hive is too much divided into small compartments. Besides, we can afford to sell them cheaper, and the consumer will not have so much tare as when he buys them in the one-pound sections. But if the market demands the one-pound sections, then we must furnish them.

If separators have been used (and every progressive bee-keeper should use them), these sections will be in good condition to be glassed, if glass is demanded ; and they will also be in nice shape to be shipped without glass, as they may stand side by side without marring the comb. These should be packed in crates of one dozen of the two pounds, or two dozen of one-pound sections; and the crates should have glass on two sides, so that the honey may be seen.

Extracted honey has all the flavor and is in every way equal if not superior to comb honey. When the people once know what it is, and know that it is not strained honey, the demand for this article will largely increase, to the advantage of both the consumer and the producer. Extracted honey is the pure honey removed from the combs and is free from all impurities. It is not the *strained honey*, pressed out of the comb and which contains pollen and brood, which impurities are mixed with the honey. Extracted honey should be put up in glass jars—the one-quart fruit jars are very good and will hold three pounds each, and when they are empty, they are very useful in the household. But if the market demands smaller jars, that will hold only one and two pounds each, they should be furnished and nicely labeled, and put in crates of one dozen each.

Further, we should instruct buyers that extracted honey will granulate in winter when exposed to a low temperature, and that granulation is a pledge of purity, for honey adulterated with glucose will not granulate. Granulated honey can again be brought to a liquid state by simply placing the jar that contains it in hot water until it is melted, but not long enough to bring it to the boiling point.

Sell to the consumer as much of your honey as you can, and take the remainder to the retail dealers yourself, instead of sending it to the wholesale dealers, who will sell it to the retail dealers and then charge you a commission.

J. F. Hershey thought honey put up in one-pound boxes is far more salable than when in larger packages; he, therefore, favored this method.

Mr. Davis asked whether bees weuld store twice as much honey in a two-pound box as in a one-pound box. The general opinion was that they would not.

Mr. Huber asked whether any member knew how to prevent robbing.

J. F. Hershey's method was to set a piece of glass sloping against the entrance. He also changed the places of the two colonies and sometimes he puts the hive depredated upon in the cellar or elsewhere.

Question for Discussion at Next Meeting.

"Should glucose be fed to bees?" Referred to I. G. Martin,

"What is the best method to prevent swarming?" Referred to Peter S. Reist.

Adjourned to meet in Lancaster, August 10, 1879.

Read before the Mosouri Valley Association.

Do Bees Injure Fruit?

LIEUT. W. G. HOGARTY.

It seems to be among the first duties of a convention of this kind to discuss the relations of the honey bee to fruit.

We feel an apology might be expected from us for bringing this antiquated subject before an intelligent community. We think, however, its necessity must be apparent, and as it is never known to become a subject for re-consideration, we hope to obtain your indulgence.

The question: "Is the honey bee an enemy to fruit?" is no longer a debatable one in England, or the vine-growing sections of Germany or France, nor in Italy, that land of flowers, where fruit and bees obtain perfection in close contiguity.

In our own country, we might point to California, whose apiaries astonish the world with their enormous productions, while her orchards and vineyards are laden with fruits in richness and delicacy the most favored part of the world cannot excel, as nearer evidence of the benefit and not the injury bees do fruit.

Michigan, next to California in her honey producing resources, as well as in the abundance and perfection of her fruit, has also only words of encouragement to the apiarist and none of censure to the bee.

We might appeal, with assurance of corroboration in our position, to every nation and every section of the globe where fruit is grown.

We might extend our inquiry back through time to that period when man began to record his thanks for blessings given, and we would find the honey bee among the first gratuities recognized. A land flowing with milk and honey is a biblical emblem of an approaching paradise.

We have been able to glean a few items from the remote numbers of our bee-journals, giving the results of the investigations of others upon the now local question.

The first article is from the pen of Mr. Chas. Dadant, of Hamilton, Ill., published in the May number of the American Bee Journal for 1874, page 108. He says:

"As I have cultivated bees in a part of France where grapes are the main crop, near the hills of Burgundy, celebrated for the wine produced by the culture of the sugared pineau, a grape richer in sugar than all the American kinds, I think I can bring some light on the discussion existing between Prof. Riley and my friend Kruschke.

"There has been considerable discussion between the wine-growers and bee-keepers, in the above-named district, and it is very well established that bees are unable to cut the skin of grapes.

"In order to ascertain the fact the most juicy and sugared grapes, pears, sweet cherries, plums, apricots, etc., were put inside the hive; never have the bees attacked them if they were not previously scratched."

The following is from Mr. F. Searles, of Hadley, Ill., taken from the American Bee Journal for July, 1874, page 148:

"One word about bees eating grapes. The past three falls have been dry with us. I have two fine vines on the south side of my house within twenty feet of my bees. Not a grape did they touch. In my garden, not forty feet from my bees, I have several vines. Two years ago I caught the yellow birds eating the grapes. They would light on a stem and pick a hole in every grape; then the bees took the balance. I put up some rags and scared the birds away. I had no more trouble with the bees. Those on my house they did not touch. I had 171 stands of bees. I have watched them closely, and I don't believe a bee ever molested a grape until it had been opened by a bird or something else. F. Searles."

On page 53 of the March number of the American Bee Journal for 1875, we find the following:

"Some persons imagine that the bees injure fruit and especially grapes. They are greatly in error. It is useful to insist on the part taken by bees and hornets, in the injury done to our vineyards.

"The wasp pierces the fruits; to the grapes it leaves nothing but the skin and the seeds. The bee only profits by these spoils; for she usually goes from blossom to blossom, gathering honey in gardens and fields. If at times she is seen in orchards or vineyards, where she only goes after the wasps, it is only to gather the remains of the feast.

"Curious experiments have been tried, it appears: Some sound fruits were placed simultaniously within the reach of both wasps and bees; the former have soon achieved their work of destruction, while the latter starved to death."

In the proceedings of the eleventh annual convention of the Michigan Bee-Keepers' Association, held at Adrian, Mich., Dec. 19, 1877, the question before the association was, Do bees injure fruit?

Dr. Whiting said that in his observation bees do not cut their way into ripe fruit, but would work on any cracked or marred fruit.

Mr. Fahnestock said he was a fruit grower. He had sixty acres of it. His apiary was in his vineyard, and he had made careful examination for years, and he never knew sound fruit to be attacked by bees. Peaches that had burst their skins were, of course, a source of food.

Dr. Southard had sat for hours at a time to watch for the working of bees on fruit, but never saw them do it.

As these statements are corroborated by the experience of all observing bee-keepers, and are so easy of verification, we will continue them no further, but ask your attention for a few moments to a case of local importance, which embodies, we think, all there is in this question deserving of attention.

It was stated at our last meeting by a gentleman who honored us with his confidence, that owing to the injury inflcted upon his grapes the past season by the honey bee, he was only able to get $40 for a crop that should have realized him $100. The amount not carried off by the bees had to be marketed so early to avoid greater loss, that they did not bring within 1½ cents per pound what they would, had they been permitted to hang longer upon the vines.

The first question we meet in the solution of this problem is: What percentage of this crop did the bees actually carry away? Assuming the grapes brought 2½ cents per pound, then as 4 cents per pound would have been realized had they not been forced upon an early market, the difference between what they would have brought at 4 cents and $100, the amount they should have brought, gives the amount the bees actually carried away, namely, 36 per cent. of the whole crop.

The next question that confronts us in struggling with this problem is, How many pounds of grape juice did these bees carry to their hives and what did they do with it?

There are two apiaries charged with inflicting this loss. They are about one mile apart, and situated in the southern suburbs of this city. At the height of the season last year one had 75 stands of bees, the oth-

acres of grapes in bearing. Grapes yield from 3,000 to 8,000 pounds per acre. The past year produced at least an average crop. But, taking the minimum yield, then 20 acres will produce 60,000 pounds. As we have shown, 100 colonies of bees are charged with 36 per cent. of this amount, then each hive must have increased in weight 216 pounds, which is more than a hive will hold.

I asked these bee-keepers what their bees did with this grape juice. They said they couldn't tell, for, while their bees were accused of this enormous robbery, they were losing in weight nearly one pound per day. Now, as we take into consideration that to accomplish this result, the bees must have carried to their hives at least 21½ pounds per day. As the statement mounts to the fabulous, with such giant strides, we feel the best refutation possible to make is the statement itself.

The strongest argument, however, which they bring to sustain their charge and the one having the indorsement of their highest authority is this: It is a well-known fact that bees can gnaw through cotton cloth, a vegetable substance. They are also seen by nearly every one feeding on ripe grapes; hence, the conclusion is irresistible that the bees are responsible for the destruction of the grapes. We might mention here that breaking the skin of the grape is equivalent to its destruction, as fermentation immediately sets in, when it becomes no longer fit for the table or the market.

In all the numerous, and I doubt not critical examinations which form the basis of this argument, a case is not mentioned where a bee was brushed off a grape before he had time to puncture the skin. If then, the observer has never been quick enough to find a bee working on a sound grape, we assert that there is no evidence that the bee made the puncture. But admitting for a moment that it did, we then ask why will so many bees crowd themselves on to a single grape, when the adjoining berry, equally as ripe and inviting, is passed by untouched, when it could be opened so quickly and so easily. Their argument is simply this: The bee, having the power has the will, in which we are offered a mechanical solution to a psychological question. We reply, potentiality implies volition no more among bees than it does among men.

In leaving this part of the subject we hope we have made ourselves understood. We feel, at least, we have suggested methods of investigation that must lead to the convictions we hold. We will, therefore, turn our attention to that more agreeable part of our subject, the benefit bees do fruit.

We all see the bees working on flowers. We find them panting at the threshold of their hives, their strength exhausted with an over-load of honey and pollen gathered from the flowers. The interior of their hives, the combs in which they rear their young and wherein is stored the surplus honey gathered for future us; the pollen so essential to feeding their young while undergoing the process of development from a larvæ to an insect, are dependent entirely upon the secretion of the flowers, without which the race of bees would almost immediately become extinct.

Is it possible, then, that nature, so careful in her adjustments of reciprocal obligations, has forgotten the flowers? Is there no possible benefit, we ask, derived by the blossom from the visits of the bees? We bee-keepers unite with botanists and all other lovers of nature in affirming, there is.

All flowers are composed of two essential parts—stamens and pistils. The stamens bear the anthers which contain the pollen. The pistils produce no pollen, but have a waxy substance in its stead called the stigma, which receives and retains the pollen. This pollen must unite with the stigma of the pistil, else there can in no possibility be fruit. The stamens when they shed their pollen, like our drones when they have served the purpose of their creation, immediately die. The pistils, unlike the stamens, when fertilized live and develop into fruit.

Wyandotte Co., Kan.

Read before the Central Michigan Convention.

History and Use of Bee Smokers.

PROF. A. J. COOK.

The fear of bees, and the dread of their sting, deters many from engaging in apiculture, who would otherwise find in its pursuit both pleasure and profit. Could these same parties know how easily bees may be subdued, and how, with experience, all fear would vanish to nothingness, they would no longer stand aloof, but would make bees their companions, and the apiary their place of business. I suppose it was such thoughts that led the officers of our soeiety to urge me to write an essay on the history, and use of smokers in bee-keeping.

The first mention I find of smokers, and smoke to render the bees tractable, is from Columella, who, as Mr. Langstroth once said to me, writes not as the narrator of others' experience, but as the practical man. In his Lib. 90, 15, in giving directions for securing the wax and honey without injury to the bees, he says: "Have also ready an earthern pot, with live coals in it, and with a funnel-shaped cover, through which the smell of dried dung may be conveyed to any part of the hive." Thus this wonderful man, at the very dawn of the Christian era, used smoke, and had invented a better smoker than the old pan of chips still used by some bee-keepers of our country.

Du Hamel, of France, as we learn from Wildman, p. 184, used a roll of rags to quiet bees in 1754.

Reaumer, English translation of 1764, p. 382, speaks of raising the hive, when the smoke of a burning rag is introduced.

In a quaint old book, by John Mills, F. R. S., published in London in 1766, on p. 80, the author speaks of a pot of live coals, and of burning linen rags. On page 99, of this work, the dust of the fungous puff-ball is recommended for use, in stupifying the bees. While on page 111 is found the earliest reference, I have seen, to the use of a bellows for smoking bees. This was used by Madame Vicat, a very learned Swiss lady in 1764. She used this implement to blow the smoke made by burning linen rags into the hives.

In a very interesting work by John Keys, "The Ancient Bee Master's Farewell," published in 1796, a special vessel or box for fumigating bees is described and figured.

In Bevan's admirable work on "The Honey Bee," which appeared in 1838, on page 136, there is described and figured a fine tube to be attached to the nozzle of a bellows. Here, then, we have the essential features of our present admirable smokers, only very clumsy in form. Tobacco is recommended for fuel.

In the third edition of Henry Tailor's "Bee-Keepers' Manual," London, 1849, there is figured and described on page 98, a similar apparatus, except that the bee-keeper's lungs are to form the bellows. He recommends puff-ball or devil's snuff-box for fuel.

John Pettitt, London, in his price-list of 1864, illustrates a bellows smoker of the Bevan pattern.

Von Keine, in his work of 1856, printed in German, wishes nothing better than tobacco and a good pipe. I regret that he has so many followers.

Debeauvoys, in his work of 1853, printed in French, figures and describes a Bevan bellows smoker; and advises his readers to burn old rope, dried cow manure, old hay, or nut shells.

Hamet, the present editor of *L'Apiculteur*, in the second edition, 1861, of *Cours Pratique d' Apiculture*, makes the same recommendation as does Debeauvoys. F. Bastian, in his work, Paris, 1868, does the same, and praises rotten wood for fuel.

Langstroth, in his first edition, 1853, states the now well-known fact that bees full of honey never volunteer an attack. That fright causes them to fill with honey, and that smoke will alarm them. He pronounces against the use of tobacco, and recommends cotton cloth. Sprinkling with sweetened water is also recommended to quiet bees. Quiet, gentle motions about the apiary are stoutly urged. In succeeding editions rotton wood is commended for fuel.

Mr. Quinby, in his work, recalls the old Tailor tube in which tobacco or rotten wood may be burned and the smoke blown through by the bee-keeper.

In 1874 Mr. Quinby figured in the March number of the *Bee Keepers' Magazine* an improved bellows smoker. This improvement simply consists in changing the fire-tube to the side of the bellows, making the latter smaller and omitting the handles. Yet it was a mighty stride in advance. It converted an unwieldly, impracticable implement into a convenient, serviceable and almost indispensible accessory of the apiarist's apparatus. More than this, if Mr. Quinby had not thought of this, very likely we should still be without the valuable bellows smokers which are such valuable adjuncts to our aparian work of to-day. Mr. Quinby was not only a master of apiculture, but he had a great heart which endeared him to all who knew him. Hence, it was characteristic of the man to give his valuable invention, from which he might have realized, a large profit, to the bee-keeping public. In his first announcement he says:

In 1877 Mr. A. I. Root made a smoker embodying the direct draft principle of the Bingham, but from its awkward form and the inconvenience of handling it, it can never win favor where the Bingham and Quinby are known.

In 1878 Mr. L. C. Root, by perforating the tube leading from the bellows to the fire-chamber and by other improvements, greatly changed for the better the Quinby smoker. Yet it still lacks the free, open draft of the Bingham, and after a time is less ready to burn, and troubles more by being dead just when the bees are most alive.

Early the present year, John G. Corey described a cold draft smoker which is now made by A. I. Root. Mr. Bingham has by a simple addition made his capable of being changed into a cold draft smoker. In those smokers the air driven by the bellows does not pass through the fire, but around it. The advantages are cold smoke, a cool fire-tube, and less danger of blowing out fire among the bees. The danger is that the generation of smoke cannot be made at once equal to the fury of a hive of intractable hybrids.

For fuel to be used in fumigation I prefer wood in the first stages of decomposition. This makes less heat, burns longer, and is more readily prepared.

To use the smoker, first blow a little smoke, three or four whiffs, into the entrance, then uncover the bees, and blow in at the top as long and as often as it is required to make the bees quiet. I would advise using smoke only when needed. When the bees are gathering rapidly they seldom sting, and as smoke makes a commotion and interrupts their labors, it is but slightly detrimental.

Albany Co., N. Y., Convention.

The regular meeting of the Albany County Bee-Keepers' Association was held at Clarksville, May 6th. It was well attended, and had a good display of Italian bees, comb foundation, knives, boxes, smokers, etc.

The meeting was called to order by President H. W. Garrett. The reports of the Secretary and Treasurer were received and approved.

The report of committee on constitution and by-laws was adopted. This changed the same so much as to meet the requirements of the Association, with an addition to the constitution, called "Article X."

It can now offer premiums for the best display of productions of the apiary. The name of the Association was changed to "The Albany County Bee-Keepers' Union Association." Bee-Keepers from adjoining counties can now join the Association.

In the afternoon the President read the following address:

"*Ladies and Gentlemen:*—It is now one year since the organization of this Society, by the bee-keepers of Albany county, and this is our third convention. If it has not been very instructive, it has been most pleasant, and much enjoyed by me; and I trust that in getting better acquainted with each other, our common interest as bee-keepers has been advanced.

"Without education and practice we cannot expect to become practical bee-keepers; to get this is the object of this society. We are making some headway by increasing the circulation of the bee literature of the day, and the adoption of movable frame hives and single comb boxes. I hope that all bee-keepers in this and adjoining counties will unite with us. What most of us lack is a practical education in bee-keeping.

"To illustrate, I will take Albany city as a home market. How many present have had a similar experience to the following: 'What do you ask for honey?' 'Fifteen cents.' 'Oh, you are too high. Yesterday a man had a whole load, and asked only 10c.' Then another and another comes along; they have all seen *that* load. Perhaps the last man wishes to purchase, if you will take 10c., or give it to him. 'What do you ask for honey?' 'Fifteen cents.' 'I could have bought a load yesterday for 10c.' 'What shaped boxes?' 'Just like yours; about so big square.' 'How many combs?' 'I don't know, but the honey was as good as yours.' By this time our patience is about exhausted. By being often stung, we partake, more or less, of our pet's nature, and if we had their weapons they would catch it.

"Well, we are here with our honey, and want to dispose of it, so we go to some grocery. Our trouble commences anew. 'Do you handle honey?' 'No.' 'Don't you think you could sell some of this?' 'That is nice; but some 3 or 4 weeks ago I purchased some, and my store was full of bees, hornets and flies, and it drained all over everything. I don't want any.'

"Being industrious and persevering we try again. 'Do you sell honey?' 'Yes, sometimes.' 'Do you want any to-day?' 'What price?' 'Fifteen cents.' 'I only paid 10c. for that.' 'But mine is in better shape for retail.' 'Yes; but I must dispose of what I have on hand, and by that time it will be lower.'

"So we continue with like results, and finally leave it at some store, or take it home to give away. Now we have found out two things: That a good many grocerymen will not purchase honey; while others expect in future to purchase at a lower figure. This is caused by so many bee-keepers putting their honey in market before it is time, or before there is a market for honey.

"Now, to be practical, we must sustain the Association, and there discuss the different modes of the more advanced bee-keepers, and the exhibits of different apiarian supplies and how to use them, and adopt the improvements, especially the frame hives and single comb boxes. and read the AMERICAN BEE JOURNAL, or *Magazine*."

The report of the committee on exhibits recommended as worthy of notice Hetherington's comb foundation, J. E. Moore's "perfection honey box," Root's and Bingham's smokers, etc.

The following officers were elected for the ensuing year: Aaron Snyder, President; W. S. Ward, Vice President; M. J. Garrett, Secretary; James Markle, Treasurer.

STATISTICAL REPORT.—The whole number of colonies reported is 1,210; the loss reported being 394. The fatality among those buried was less than those wintered otherwise.

The next meeting of the Association will be held on the second Tuesday of October, 1879, at the city of Albany, N. Y.

M. J. GARRETT, *Sec.*
AARON SNYDER, *Pres.*

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Read before the Muscatine, Iowa, Convention.

The Management of Bees.

BY REV. E. L. BRIGGS.

Mr. President and Gentlemen:

I am here, at the request of your honorable secretary, to speak upon the subject of "Bee Culture," and of the means whereby this useful and very interesting branch of human industry may be made, not only a source of life-long amusement and recreation to the stalwart and able-bodied man, as well as the delicate woman, in town or country; but also a source of pecuniary profit equal to, if not superior, to any other investment, according to the capital employed, in any agricultural or mechanical pursuit.

And I affirm, at the beginning, that this can be done, for I know whereof I speak. When yet a boy of only ten years of age, I have often left my companions at play, and taking my position by the side of a colony of bees, while they are at work, I have there sat and watched for hours at a time, determined to get a glimpse of the "old king-bee." And I have never ceased to inquire until I learned, so far as I was capable, the bee language, and all else inside a hive. There was something intensely fascinating to my mind then, concerning the mimic kingdom of workers, drones, guards, nurses, house-keepers, queen, etc. There is still sweetness in the honey and the honey comb, but even more in the wonderful demonstrations of the spirit-taught intuitions and instincts manifested in the marvels of the untaught skill and knowledge revealed in the wormanship of a colony of bees.

Here is 100 per cent. profit, and 50c. surplus to pay for the care of the colony.

"Is this a real fact?" says one. "Why, if that's the case, I must get some bees, for in order to make $3 on a sheep, or a hog, I have to feed it twice every day, all the year round, on that which costs money, and then only turn all this labor and food into money at a very slight per cent. of profit at best. Therefore, I must get some bees."

So the man gets a colony or two at the first auction,—black bees, of course, because he can get them cheap. He takes them home in September, sets them down somewhere until he can fix up a good place, lets them set a month or so, and, by-and-by, when passing them on some cold rainy day, he says: "I declare! those bees will all freeze, if left out there in the wind." So he sets them up; it may be in the wood-house loft, on the north side of his dwelling, where the sun cannot strike them until set out again some time next spring. In this situation the combs remain filled with frost and ice-cold honey all winter.

Some day when the weather is mild and the sun shines warm, he sees a good many bees flying around the old place where the colony first stood, and he remarks: "I wonder what the bees are all doing there? O, I see, they are gathering up the scraps of comb which fell out when they set there." But he sees a good many bees lying around which seem to be chilled to death. Spring comes at last, and he puts the hive out on the other side of the house from where it stood in the fall.

The next warm day he sees thousands of bees pouring in and out of the hive, with a hum loud enough to be heard all over the lot. "Wife," says he, "I tell you those bees of mine are getting honey to-day like everything. Did I not tell you that I was going to make more than 100 per cent., without hardly ever having to touch them?" The wife nods and smiles as she looks out, and says: "Why, yes; they are at work finely!" Two or three days after this, he no longer sees the bees going in and out as before, so lifting the cover he finds the hive desolate,—honey all gone, the combs torn and ragged, as though the mice had been gnawing all over their surface. "There goes the 100 per cent. story, just as I thought!" exclaimed the disappointed man. "There is no certainty is bee-raising, I see, and my money is lost; and if there is, I have no luck in that way!"

I need not tell you, gentlemen, what the cause of failure was, for you saw it at the start. But to such as are not posted, if such are here, I would say, get the best at the start, which the market affords. Don't pay a fancy price, but be willing to pay a fair price to a reliable bee-raiser, and such a price, too, as will enable him to breed the best. Put him upon his honor, and tell him to give you a first-class colony in a good hive. Never buy a scurvy, woods-bred, long-snouted pig, at an auction for a dollar, to breed from, when you can get a Poland-China, Berkshire, or Chester-White for $10; if you do, you cheat yourself abominably!

In the next place, by all means set your colony, when you bring it home, where it is to stand, and stand forever. Don't move it at your peril, until you have fully learned how and when you can do so without loss. All this man's bees from the wood-shed loft went back to the old place, and perished as fast as they came out on the first warm day, until they dwindled to about nothing. There they were destroyed, and his neighbor's bees came and cleaned out the honey for him in the spring, when he thought the bees were gathering honey by the gallon for their owner. Don't move your hive, then, at your peril, even to the extent of a few yards, without the advice and direction of a bee-master.

In the next place, if your bees are wintered out of a warm repository, leave them on their summer stands, and see that the sun shines upon the hive at least a part of the day, every sun-shiny day, all winter. This, too, is imperative, unless the hive is well protected from frost. Do these things, and you will have luck with your bees.

Why, every woman could tell you that, if you picked up the old setting hen, nest and all, and moved them ten yards away. The hen would go back to her old place, and her nest and eggs would be forsaken; and you would have poor "luck" in raising chickens. So, if you treat your bees in such an unnatural manner you will have "bad luck" with them, too.

Another cause for bad luck in bee-keeping is the mania for patent hives, with beginners. Last fall I sold a neighbor three first-class Italian colonies, and gave him directions for wintering them. They were in the very best condition; plenty of honey, and populous in numbers, and located in Langstroth's hives of the very best material and finish. I called round at his residence about the 10th of March, and, lo and behold! the bees were all out upon their summer stands, and every one transferred into "bran new Mitchell hives"—the patent of which he had hastened to buy during the former part of the winter. I took off the cover of one and lifted out a frame. I found each frame divided into six compartments, and these were filled promiscuously with drone-comb, store-comb, and brood-comb, just as the shape of the broken pieces would best fit together.

I asked, "Why did you transfer your bees into these hives?" "O, because I wanted to dispense with boxes or small frames on top of the hive, and have all the honey stored inside of the main hive, for they will gather so much more honey this way, and it is so much easier to take it out when the frames are filled." I offered to buy his old Langstroth hives, but he had cut them up or thrown them aside as useless lumber. He had been dividing his colonies to form nuclei for raising queens, for two or three weeks; and he said to a friend, as I was told last Saturday, that he thought he should make two or three colonies by dividing some time next week The profits, and expense, and labor have been slightly from, rather than to the owner thus far, but the Mitchell patent when it begins, pours floods of honey into the lap of the owner; but I fear it will be in the sweet tears of sympathy from his loving wife, as she condoles with him over his sad disappointments and losses in bee-keeping.

But a child, or a beginner, will and must put his hand into the flame, just to see how the smart of a burn feels, and no warning or advise, I suppose, can keep him from it. So, probably, every beginner in bee-keeping, must run his course of patent rights, just as the child takes the mumps, the measles, and the whooping-cough. Get a good hive (the Langstroth is the best), and stick to that form, when once decided upon. Thus your hives being all alike, the frames will be interchangeable.

Don't imagine that two or ten colonies will make one rich, or that they will greatly add to the annual income. You cannot get rich on two sheep, two hogs, or two hens; nor would you, if they should give as much net profit as bees. Even the eggs of two hens are a great convenience. Ten dollars' worth of honey to eat or to sell, is worth caring about; and the mother, wife, or daughter can superintend this department, and not only have the honey, but the pastime and pleasure of this out-door exercise, so promotive of health and comfort.

Get a work on bee culture; "Langstroth on the Honey Bee," "Quinby's Mysteries of Bee-Keeping," "Newman's Bee Culture," or "Cook's New Manual of the Apiary," will either of them give the beginner all the direction he needs, if he will rigidly follow them. Then post up, and never touch the bees without first consulting your Manual.

But I am reminded that I am addressing a convention of bee-keepers, and not beginners; and you are here to receive and impart some hints or truths, whereby a person can get the most honey and the most money out of his bees. Three things are necessary to the accomplishment of this result:

I. The culture of the highest possible grade of bees, considered—

1. As to size and strength, in order to avail themselves of the red clover harvest, so abundant in this country.

2. As to their industry, as honey gatherers.

3. As to their being in the highest degree prolific.

4. As to their being docile in disposition.

5. And what would mark them as distinct in variety, viz: a bright yellow color.

I claim to have been the first one, who, through the press, advocated the feasibility of improving the honey bee to meet all the above points. But "dollar-queen" men launched their thunderbolts at me through the next number of the BEE JOURNAL, exclaiming against the idea that there could be any higher grade of bees than those which they were sending out to their customers for one or two dollars each.

You can all realize that not all the offspring of the highest strain of horses are equal to the best. It is on this account that selections are made, from which to breed, and persons are willing to pay fancy prices for such selections. No ordinary bee-master, however, can devote his attention to this culture, and cultivate especially for this object, without a year or so of time and at considerable expense. He must visit a large number of queen-rearing apiaries, make his selections among tested queens, then their offspring in turn, and then select from the best again, until the attainment of the desired end.

An apiary on the joint-stock plan might be formed by, say twenty apiarists, each supplying five colonies, and $25 to pay an experienced apiarist to take care of the bees for the first year. After the first year the apiary would pay its own expenses and a handsome dividend to each stockholder, into the bargain. By this means, or some other which might be devised, the best possible stock might be procured. This is not a visionary scheme either, for twice in my life I have had stock which worked freely on red clover, and in one season when no other bees gathered any surplus honey, one colony give me 48 lbs and the other 24 lbs., while the blacks and hybrids, in the same year, gave none. The queens of these colonies were mother and daughter.

The four-banded worker idea, suggested by me, was ridiculed, in the JOURNAL, as a myth, though the fourth yellow band was just as bright, though not as broad, and just as perceptible, when the bee was filled with honey, as were the others. Indeed, the whole abdomen to the tips had a yellow cast. These bees worked rapidly on the second crop of red clover, that year. Now, what has been done once, can be done again. The first of these queens met the three first, and most important of the five points named above, in a measure, and the latter was an approach to all five. But this ideal can only be realized by the untiring energy of a first-class apiarist, with first-class circumstance. Were I that man, I should like to give to the American apiarists the ideal honey bee in the next ten years. Who will be the man? But you, gentlemen, can all breed your own queens, as you might do from your best old colonies, and thus the survival of the fittest will continually be realized, in a degree.

II. The next thing needed, is to lengthen out the honey season, by increasing the pasturage in those intervals which take place after white clover and linn blossoms are gone and the blossoming of the golden rod and buckwheat. The latter can be sown in early June, mustard at any time in the spring, and also Alsike clover, sweet clover (melliot), and rape can be sown at such time as to bloom when this honey drouth occurs. Let the shade trees be of such variety as will produce blossoms and honey also.

III. The third thing necessary, is the gradual, but not too rapid increase of stock. This can be easily accomplished, where the greatest results are desired in honey, as well as swarms by the various modes of artificial swarming, by making one new colony from two old ones, leaving all the bees in each of the colonies in an empty hive, upon the old stands, and uniting the brood-combs of both old and new to form a new strong colony upon another stand. After the three days, put the top boxes or frames upon all three, and they will give you the greatest product of honey of any mode I have yet tried, unless they can be kept from swarming at all. When the young brood are out of the combs, leave enough for the new colony to fill the hive, and return the rest to the other two, giving half to each; putting drone-comb, if any, next to the walls of the hive, and the brood-comb in the center, among the new-formed combs, and they will be speedily filled with brood again.

IV. The last topic which I shall discuss, is that of wintering and springing bees. Twenty years of unvarying success is, certainly, enough to show me that the cellar or an equally, dark repository, is the only preservative against loss in carrying bees through the winter, from November to April. The reason bees perish in cellars is because they are put in damp, with melted frost in the combs, and because the temperature is kept down near to the freezing point all winter. Keep the cellar at from 35° to 45° all winter, or else make it warm all day and night, once in four weeks, by keeping up a good fire in a stove for that purpose. Get the lectures on "Wintering Bees," presented at the Centennial, at Philadelphia, published at the office of the BEE JOURNAL, in Chicago, and they will give you the requisite information. Thus you will save your bees, and they will give you both honey and money, to the greatest extent.

Central Ohio Convention.

This Association met at Washington, O., May 14, President N. Julian in the chair. The minutes of last meeting were read and approved.

A discussion on "how to avoid losses in wintering," was the order of the day.

Mr. Rockwell said that bees died from the poor quality of the honey gathered late in the fall. The remedy is to extract such, and give them that gathered earlier in the season. Fall honey will answer for spring feeding.

Secretary Reigel said that some colonies died from weakness, they being unable to keep up the natural heat in the hives. Many died thus with plenty of honey in the hives.

Mr. Ustic said that newspapers placed over the frames in winter retained the heat and absorbed the moisture. He used them on his hives.

The question selected for discussion at the next meeting, was "Preparation of Honey for Market." N. JULIAN, *Pres.*

S. D. REIGEL, *Sec'y.*

Northeastern Wisconsin Convention.

Assembled, as announced, at Hartford, May 27th and 28th, A. H. Hart, President, in the chair. The Secretary, Mrs. Frances Dunham, gave a short report, which was accepted. Many members were admitted, and the following officers elected for the ensuing year: President, H. P. Sayles, of Hartford; Vice Presidents, Geo. Grimm, of Jefferson, Judge Grote, of Mauston, A. A. Potter, of Eureka; Secretary and Treasurer, Mrs. Frances Dunham, of Depere. Convention then adjourned till 1 o'clock.

The retiring President, A. H. Hart, made a short address, and President Sayles took the chair. After reading an article written for the Association, the discussion opened up on "The Purity of the Italian Queen."

Mr. Sayles said the importing of queens should be discountenanced, or if we bought such, they should be thoroughly tested, and the price fixed accordingly. Mr. Guenther said it is impossible to raise pure queens, while farmers raise so many black drones. One hive with drones is enough to control fertilization for two miles in diameter.

On the subject of "Comb Foundation," Mr. Place said all are willing to admit that it is the best thing used.

It was suggested that foundation should be inserted in the afternoon, as it then had the whole force of the bees to work at it all night, and was partially drawn out before it had to stand the heat of the sun.

Mr. Guenther wintered 600 colonies, and only lost 8; gave, by request, his mode of wintering. Much interesting discussion followed.

Mrs. Dunham brought before the convention a matter, in which she took up the present condition of the Rev. L. L. Langstroth. She had never talked upon the subject with a bee-keeper who did not regret it most truly. He had been decorated by societies all over the world; honors heaped upon him, and yet he was suffering now, on account of his generosity to us. She asked that the matter (which was received with enthusiasm) might lie over till to-morrow afternoon, before action was taken upon it.

The convention then adjourned, after deciding to hold an evening session, which passed off agreeably.

SECOND DAY.

Mr. George Grimm read an able article, which was listened to with interest. It was moved that the paper of Mr. Grimm be accepted as the opinion of the convention, and that a vote of thanks be given him. Unanimously carried.

"Purity of Queens" was again discussed. Mr. Guenther said the actions are a better test than the three bands. Italians will cling to the comb; the general idea is that "Italians are hybrids" anyway. All say there is no better test than three bands, and then it is necessary to breed to industry, prolificness and docility.

Mrs. Orvis wished a remedy for swarming out.

Mr. Grimm secures the queen, clips her wing, hives the bees, gives a card of young bees and brood in the center of the hive. It is a certain remedy for swarming out.

Mr. Hodgson said that any old bees will swarm out; they seem not to care for the brood.

AFTERNOON SESSION.

A committee on exhibits was appointed, consisting of F. E. Turner, of Sussex; Geo. Grimm, of Jefferson; G. H. Pierce, of Winooski.

Mrs. Dunham asked to have the matter pertaining to Mr. Langstroth brought before the convention for action, and explained briefly her great desire that something might be done. She read a few words from a very touching letter, from his daughter in answer to her request to be allowed to bring to the minds of all kind-hearted friends, the injustice that had been done him, and the hope that it could be remedied. The extract was as follows:

"It would relieve my dear father from much of the burden, which in his age and feeble health, presses very heavily upon him, and we, who know all of his disinterested labors for the bee-keeping public and his meager returns, feel it would be but simple justice."

The matter was received with the utmost enthusiasm by the members of the Association. Mr. Geo. Grimm, in a short but eloquent speech, reviewed the main incidents of Mr. Langstroth's life, and showed the great benefits which had been derived from his labors and wonderful inventions, and said: "There is not a bee-keeper in this country who would fail to respond, if a monument was to be erected to his honor."

Mr. H. P. Sayles followed in a few emphatic remarks.

Mr. Hart moved, and it was unanimously carried, "that this convention appoint a committee of three to take charge of getting funds for Mr. Langstroth, to show our gratitude and respect for him.

Mr. Geo. Grimm moved that the President appoint a committee of three, who should correspond with the secretaries of all State Societies, and proceed in the matter with all due diligence, according to their best judgment.

The following were appointed as such committee: A. H. Hart, Appleton; Geo. Grimm, Jefferson; Mrs. Francis Dunham, Depere. Mrs. Dunham was appointed treasurer.

The whole convention resolved itself into a committee, for the purpose of raising funds for Mr. Langstroth.

The committee on exhibits reported as follows, which was adopted: We regard the dove-tailed section boxes of J. C. & H. P. Sayles and of Lewis & Parks as of good material and workmanship, especially the "Lewis Section" honey boxes, and recommend them to the use of bee-keepers generally. The comb foundation, made on the Dunham foundation machine as superior on account of the depth of side walls or cells, and the shape of the base of the cells, and highly recommend it for general use. The foundation machine, invented by Mrs. Dunham, is made of substantial material, and is of superior workmanship.

Mrs. Dunham's hive indicator, a cast-iron block, marked on the sides, to be laid on top of the hive to show at a glance the condition of the colony; Bingham & Hetherington's honey knife ; Crandall's frame ; Sayles' No. 1 hive ; Sayles' cold-blast smoker and extractor, and the Parker chaff hive were worthy of recommendation.

The convention adjourned to again meet on Tuesday and Wednesday, Sept. 2d and 3d, 1879, at Whitewater, Wis.

FRANCES DUNHAM, Sec.
H. P. SAYLES, Pres.

[These proceedings will be published in full, with the papers read and discussions, in pamphlet form. Those wishing a copy of the pamphlet can procure it of Mrs. F. A. Dunham, Depere, Wis.—ED.]

Southeastern Iowa Convention.

This convention was held at Mt. Pleasant, Iowa, May 31st.

The Secretary was directed to purchase a book for his use in keeping the records. Sixteen members having signed the constitution and by-laws paid their yearly dues of 50c. each.

A resolution was adopted, asking the County Agricultural Society to give them a special place to exhibit apiarian products and machinery, and also hives of working bees properly protected. They also adopted the following as a premium list:

Best box of honey, $5.00 ; 2d best, $2.50.
Best show of beeswax, $1.50 ; 2d best, 50c.
Best colony of Italian bees, $5.00 ; 2d best, $2.50.
Best colony of native bees, $5.00 ; 2d best, $2.50.
Best honey extractor, $2.00 ; 2d best, $1.00.
Best bee smoker, 50c.
Largest and best collection of bee implements, $5.
Best bee hive, $2.00 : 2d best, $1.00.

First question.—"The relative merits of Italian and native bees ?"

The discussion commenced as to the relative merits of Italian and native bees. It was claimed for the Italian that they were more docile than other bees ; that they were healthier and stronger ; that they started earlier in the morning and came home later ; that they visited and extracted the honey from flowers that the common black bee were never seen upon, the reason being that the Italian having a longer proboscis could reach the honey in flowers the black bee could get nothing from. It was said the black bee never visited the red clover while that was one of the favorite resorts of the Italian bees. The red clover being one of the best secretors of honey. Most of the speakers are keeping both kinds, and the general opinion seemed to be that there was very little difference as to the amount of honey gathered.

Mr. Thomas favored the Italian ; they were very seldom troubled with moths. In reference to the amount of honey, the place where the hive stands has an influence on the amount of honey gathered. It is desirable to place it so as to have the morning sun strike it, and to have it protected from cold winds. In such a place the bees start earlier in the morning.

Mr. Harris said that he did not find that the most vigorous workers gathered the most honey, and that view was generally concurred in. The shape of the hive and its condition often has more effect on the amount of honey than the extreme working of the bees. The amount of honey gathered depends on the condition the bees are in when they begin work in the spring. Many of the colonies come out in the spring with only a small number, and those are likely to be in a feeble condition, so it takes them a long time before they have an efficient working corps. The notion that there is any difference as to size or vigor between the Italian and black bees is all a myth.

In response to a question, Mr. Dougherty said he did not consider early and often swarming any advantage, if the amount of honey was the object ; bees never swarm so long as they have room to work.

Mr. Ghost inquired as to the cross or gray bee, made by giving black bees an Italian queen. These kind of bees had no friends in the meeting.

Second question.—"What killed the bees last winter ?"

One cause was the snow. In a sunny day, where hives stand in a warm place, the bees come out and fly till they get chilled, then they fall into the snow and die ; a few sunny days will so decimate a hive that the few left do not generate heat enough to keep them warm, and they die out.

Another cause is imperfect ventilation. Bees in the winter throw off a perspiration which, if it has no chance to escape, wets the bees; that being an unnatural condition it weakens them, disarranges their digestion and produces what is known as cholera. In a natural, healthy condition the digestion is so arranged that the matter excreted from the bowels is of a dry powdery nature, devoid of smell and not injurious to the bees or honey. When distured by moisture or any other cause, this instead of being dry and inoffensive becomes watery and offensive, and is poisonous to the bees. This same effect is often produced by moving the bees into cellars or other places where the temperature is not even. When bees are warm they overeat, and when cold suddenly stop eating, and this disarranges the digestion.

Mr. Dougherty said that the hives of bees, when they are housed either in cellars or houses made for the purpose, should be carried out at least once, on favorable days, during the winter, so that they can fly out and clear themselves. Bees have been kept 5 months in rooms that have a cool temperature, and came out all right.

Mr. Prince said his method of ventilation was to fill his small boxes with dry hay and set them over the holes in the top of the hive—every few weeks during the winter he changes the hay, always finding the hay wet. The advantage of this is that the hay keeps the hive warm as well as takes up the moisture.

To keep bees from flying out and dying on the snow, Mr. Dougherty said he had succeeded best by raising the hive about an inch, letting the cool air run through the hive. This also ventilates the hive and bees nicely.

After some desultory conversation among those present, it was decided to adjourn to meet again in Mt. Pleasant, Iowa, on Saturday, June 14th, 1879.

H. D. WALKER, *Sec.*

Read before the Central Michigan Convention.

A Factor in Wintering.

S. D. NEWBRO.

I think there is an important factor in the wintering of bees that has never been boldly presented to the consideration of bee-keepers—at least, I have never read or heard any person use language to the effect—that is, that a colony of bees make 140 barrels of steam during the time they are in winter quarters. When bee-keepers become cognizant of this fact, they will turn their attention more to making their hives of porous wood or other porous materials, and to packing an abundance of porous or absorbing substances around the bees—means to conduct the steam or vapor away from the hive as fast as they make it, and radiate it to the outer atmosphere through the pores of the hive; and with the knowledge that a good coat of oil and lead as effectually prevents the escape of vapor through soft open-grained wood as if incased in India rubber, they will paint their hives less.

The evidences that we should consider that a fair, strong colony of bees will make 140 barrels of vapor, are founded on the statements made by writers on bee-culture, and by the current authority of brother bee-keepers, that it is not entirely safe to put a fair, strong colony into winter quarters with less than 30 lbs. of honey, and for an extra strong colony 40 lbs; and, though many colonies winter on a much less amount of honey, yet there is no question but that other colonies during long winters consume 30 lbs. and have to be fed in the spring.

The visible and invisible manner in which these 30 lbs. of honey change form or disappear in the process of digestion are chiefly these: First. The visible, in evacuations when the bees are permitted to have "a fly." After 90 or 100 days' confinement, if the day is warm and nice, we contemplate that almost every bee will take an airing, and if there be snow on the ground we see thousands of yellow specks. If these could be collected and weighed, we know the weight would only be a few ounces. If the hive were weighed immediately before and after taking "the fly," we might speak more definitely as to the only visible thing. Now, as to that which becomes invisible. I must be excused for not being able to speak with scientific accuracy about the chemical constituents of honey. I have not seen any statement, in any book on chemistry or medicine, of the analysis of honey into primitive elements. Medical works seem to regard it about the same as sugar-house syrup, only that it is flavored and scented with the aroma of flowers, and there is such a difference that there cannot be a standard for honey, as there is a standard for sugar with which it is related. Refined dry sugar (so-called) contains 43 per cent. of carbon and 57 per cent. of oxygen and hydrogen—equivalents of water. If such sugar contains 57 per cent. of the element of water, most persons will be willing to concede that honey must contain 65 to 80 per cent. of water according to its age and limpidity. Provided average honey contains 70 per cent. of water, then 30 lbs. will yield 21 lbs. of water and 8 lbs. of carbon and effete matter.

In respiration the bees absorb oxygen from the air. Oxygen has weight, so, in point of nicety, the weight of the honey is not all that the bees consume. The oxygen that is taken from the air unites with the carbon and evolves warmth, while the union makes the deadly carbonic acid gas, which is harmless to the bees, for it is heavy and falls to the bottom of the hive and flows out at the lowest aperture. As the carbon is taken from the honey in the above process, the water is left, and the heat starts it off as vapor, and it would go up and unite with the rain clouds if there were ample facilities to filter through porous substances, without choking and being held back till it collects as sensible moisture on the comb and all the interior of the hive, circumscribing the power of the bee more and more till finally they die of dampness, and that, too, in cellars that never freeze. Sugar diluted so as to raise the per centage from 57 to 80 per cent. of water makes a food for bees that many bee-keepers think nearly as good as honey, and certainly sometimes better than late-collected honey. If sugar diluted with water makes it the equivalent of honey with the aroma of flowers omitted, it corroborates the estimate of 70 per cent. of water, or that 30 lbs. contain 21 lbs. or pints of water.

Those who made the subject of steam and steam power, matters of study and experiment, have demonstrated, times without number, that water in being converted into vapor expands 1,700 times. A convenient and good authority which may be consulted can be found at every drug store, is the United States Medical Dispensatory. The 21 lbs. or pints therefrom will make 35,709 pints of vapor, rather over 140 barrels for 120 days between November and April. But call it a barrel a day, and the question will be, How to make hives that will permit a barrel of vapor per day to filter through and radiate from the hive. I have essayed to make a bag hive with the foregoing ideas in my mind, and I have placed this hive before the convention for examination and study.

It is my desire that it may be called the bag hive as a contra-distinguishing name that will prevent it being confounded with any other style of hive, a matter that will be of much convenience, provided the hive has merits to rise into favor before the public as a wintering hive. It is the smallest and lighest form of hive for carrying in and out of cellars, and probably the best invention for out-door wintering by placing in a box or summer hive and packing chaff all around the cushion, and thus abundance of absorbing material as close to the bees as it is possible to be placed. I add one remark, that I think dried bog earth will, on trial, be found to be one of the best of packing materials, as it will absorb 3 or 4 times its weight of water, and is at the same time one of the best non-conductors of heat and cold.

Read before the Ventura, Cal., Convention.

Remedy for Foul Brood.

JOHN G. COREY.

This scourge occupies the same relation to the honey bee that the plague or cholera does to the human species, and has been fought against with variable success by the most eminent apiarists of both the Old and New Worlds.

This climate offers rare opportunities to the bee-keeper to rid his apiary of this disease, the atmosphere being dry and the temperature equable during the months most suitable for treatment, May, June and July, as I have found from experience during the past year.

This is not a disease of the bees but of the sealed brood, and the symptoms are dwindling of the colony caused by the brood or a portion of it not hatching; the capping of the brood becomes sunken instead of convex, and later on, in a more advanced stage of the disease, small holes the size of a pin will be found in the capping of the diseased cells.

A lengthy description of the different symptoms of the disease in the different stages is not strictly necessary, as the observing bee-keeper can readily detect bad cases by the sickening smell when a comb is taken from a diseased colony, and with a little practice will be able to detect the slightest trace of it so long as it remains in his apiary. It is strictly necessary for him to know that the disease remains with the colony so long as there is a particle of the diseased honey carried out with the bees, and allowed to remain with them in their sacks and not entirely consumed.

The disease was brought into my apiary during the dry season of 1877, by feeding honey sent to me from San Francisco, which came from a district where foul brood prevailed, and from the healthy strong colonies in May and June, built up by moving my bees into the valley when hundreds of acres of mustard was in full bloom; for 30 days my whole apiary was transformed into a pest hospital. My bees had made brood rapidly on the mustard, and my hives were crowded with bees. Hot winds from the desert came on, flowers dried up, and all that bloomed after that time, about the 10th of June, appeared to secrete no honey, and the buckwheat that we sowed on irrigated land made a fair crop of seed, but produced no honey.

I fed my bees from 10 to 15 lbs. of honey, only one-fifth of which was diseased, but by using the same feeders the virus was thoroughly spread into nearly every hive of the 150 colonies fed, and before January 50 of them had died out, and by spring 15 or 20 more were so weak that they were virtually used up. I added 50 new colonies to my apiary of healthy bees, 30 of which were transferred and made new combs and brood rapidly; these and the 15 other healthy colonies were used to strengthen my weak and foul colonies until warm settled weather came. I lost some time in trying the salicylic acid remedy so much recommended by our German apiarists and also by Mr. C. F. Muth, of Cincinnati. I found that uncapping the brood and spraying with the acid, carefully prepared by a good chemist, and adding the borax, which Mr. Muth claimed to be an important addition were of no benefit whatever.

The sticky mass of dead brood would adhere to the feet of the bees, and effectually bird-lime them, so that it was impossible for them to carry out the foul matter, and one, two and three different applications of the acid were tried, hoping to disinfect the matter so as to enable the bees to carry it out, and after trying until the bees dwindled to a mere nucleus, I abandoned drugs.

The treatment used by Mr. Quinby, with the additional recommendation of Mr. A. I. Root to confine the bees until all the diseased honey was consumed, appeared to me to be the most reasonable remedy left for me to try. By this time I had searched bee literature thoroughly, and found what to me appeared a rational conclusion, which was that the honey that remained in the hive contained the virus, as I found after removing all diseased brood from the hive and giving healthy empty combs to it, that the brood afterward died and became foul and rotten by being fed with the diseased honey left in the hive. I furthermore decided that there was a type of the disease that our German friends and Mr. Muth had not met with, or they would not have been able to report the success they did with simple disinfectants.

To come to the manner of treatment, no part of which is entirely new, I will give only such as was finally tested and found effective, leaving all my experiments and failures out. In the first place, have ready either new hives or thoroughly cleaned ones for the number you wish to treat, say from 5 to 10 at a time, depending, of course, upon the size of the apiary and the help you have to do the work.

Remove the infected hive to one side and place the new one on the stand; raise the combs one at a time and with a brush or feather brush all the bees into and in front of the new hive, carefully covering up the foul broody combs and carrying them into the house; proceed with others till you have treated the number above mentioned. The operation should be performed after all the bees have come in from the field, say between sunset and dark in the evening, so as to entirely prevent robbery, and not a drop of honey nor piece of comb left around for the bees to rob out the next morning. As soon as all the bees have gone into the new hive, fasten up the entrance and arrange for ventilation upward, if possible, but no particular way of arranging for this is needed, as all bee-keepers know that bees require more air when confined than when at liberty.

The combs taken from the diseased colony is the next job. If they are not well filled with honey, a good bright fire to burn up everything in the frames containing foul brood is the very best remedy; if they are well filled with honey, the brood can be cut out and burned and the honey extracted, but I do not recommend trying to save it, for I treated some of my colonies over and over, and forced them to make three entire new sets of comb before the disease disappeared, on account of trying to save the honey from a few diseased hives. A single drop, if carried into a healthy colony, will spread the disease if fed to the brood; at other times it might escape for a while, in case it was extracted soon after the diseased drop of honey had been deposited in the combs, and even then, the minute fungus might infect the honey in one cell only, and that honey be used one or two years afterwards to feed brood and spread the disease. The bees confined in the empty hives should be looked after in 24 hours, and if lively and cross they should be confined 12 hours more, and in some cases as long as 48 hours, or until they appear stupid and a portion of them starved to death.

They should then be allowed to fly, giving them a set of frames, and if possible a comb of healthy honey, or sprinkled with warm sugar syrup to revive them so that they will be able to go out for supplies. A set of frnmes filled with half sheets of comb foundation have been found of great service; saving time, allowing the queen to resume laying sooner and preventing the colony from dwindling. By proceeding from day to day, treating 5 to 10 per day and carefully attending to them, seeing that they build up; carefully destroying all foul honey, propolis and wax so as to prevent healthy colonies from getting at it, a large apiary may be restored to health in a month.

In preparing hives that have been occupied by fonl brood colonies for future use, scrape all wax, propolis and other matter enterely off and submerge them in a strong solution of caustic soda or concentrated lye, afterwards drying and sunning them for a day or two. They should remain entirely covered in this solution at least an hour, allowing it to penetrate all cracks and crevices. All old rickety hives and those that are too long or too short, so that your frames do not work well in them, can be soaked in the solution, dried and split up into kindling wood. By following the foregoing directions practically, never losing sight of the main features of the treatment and closely examining through your hives in the fall and then again in the spring, carefully examining every comb and destroying every one that has a trace of the disease about it, you can rest assured that you will again be in possession of healthy colonies and open up and remain strong and healthy as though no disease had ever existed.

I was assisted in treating my apiary by Mr. Rufus Touchton, a young man with keen eyesight and a good memory, and to these added a firm determination to eradicate the disease. No combs were interchanged from hive to hive during the season. A second treatment was made after the honey season, and this spring the few remaining traces were destroyed by fire, and now I can say for the first time in nearly two years, that I have not got a foul comb to show to those who are fortunate enough to have never seen it. Should this hurriedly written report be of service to the members of your society, I shall be amply paid for the time taken from my daily labor to prepare it.

Foreign Notes.

For the American Bee Journal.

The Theory of Dzierzon.

M. Vienney has altogether misunderstood me. I never dreamed of raising the least doubt against parthenogenesis. Not a single word in my note can give room for such an interpretation. Above all, it does not contain the errors, the absurdities even which M. Vienney gratuitously lends me,—such as parthenogenesis deduced from the color of the males. The criticisms of M. Vienney then altogether miss their mark, and as to the form more than shape, that he has given to them, I shall confine myself to regretting it, without otherwise taking notice of it.

M. Vienney does not seem to have a very distinct idea of what essentially constitutes the theory of Dzierzon. If he will just take the trouble to read carefully (in the December report of the Bee-Culturist Society of the District of Geronde), the little work of which my letter to the Academy was but a summary, he will see there the distinction that there is occasion to establish between virginal reproduction and the part attributed by Dzierzon to fecundation. He will see there also that, far from flattering myself that I am the first to point out this fact, I am glad to see that others have made similar observations, which can but give weight to my interpretation of it. It is of little consequence, to speak truly, that the presence of black males in a mongrel hive has been noticed these 16 years, if we do not deduce from that fact the theoretical consequences that it contains.

May I be allowed to make some remarks upon that point. Dzierzon has distinctly said that the sons of an Italian queen impregnated by a male of another breed are all Italian like their mother. There are many observers who prove undeniably that they are not all Italian, To the examples already known M. Matther has just added another. It is certain that the cases which we know of are not the only ones that have been noticed, and we can foresee that the coming year will yet bring many cases to light, so that the pretended exceptions may very easily become the rule.

Why then persist, out of an exaggerated regard for a seductive theory, in not recognizing the fact that the proposition laid down by the celebrated German bee-culturist is incorrect? Without dreaming of raising a doubt against this dogma of modern bee-culture, we are going to seek in a new hypothesis an argument such as that between some facts and theory. Hitherto it has been supposed that egg-laying workers were very rare. To-day it is admitted that they are in every colony; that every hive may perhaps possess some. But has this supposition been proved by facts? Not at all. It arises solely from our dislike to attribute to the queen males which do not at all agree with what theory teaches us. In dealing thus with the subject, no notice is taken that there are cases in which this singular result is arrived at, that a yellow mother does not lay any males at all; that they are all laid by workers. This is the case, for instance, in a mixed hive in which only black males are seen. What then becomes of Dzierzon's theory? It would have been as well to have frankly denied it at first, as to arrive at last by a roundabout way at the very denial it was sought to avoid. This question, whether workers lay eggs, is well enough set now for us to expect a positive solution in the next season.

I know well that more than one bee-culturist will give more attention than has hitherto been done, to the male population of mongrel hives. To obtain absolutely conclusive results it will be necessary to proceed in the following manner: To collect the male offspring of an Italian mother of pure race, who has been impregnated by a male of the same breed. On the other hand, to collect the sons of a mother born of the preceding one, but impregnated by a black male. If the last, take them altogether, are darker than the first, we shall have proved undeniably the incorrectness of Dzierzon's proposition. The existence or absence of egg-laying workers will then remain to be proved. If the mother be taken away at the proper time, the careful examination of all that passes in the hive, after she is taken away, will allow us to see how far the opinion, that egg-laying workers habitually exist, is rightly founded.

J. PEREZ, *Proffesseur*
a' la Faculte des Sciences de Bordeaux.

From the Michigan Farmer.

Pollen and Wax.

[Translated by Chas. Benton, Dearborn, Mich.]

The bee gathers nectar from various blossoms, and at the same time secures the pollen which it finds on the anthers. When it cannot obtain the nectar, it contents itself with the pollen.

In the months of April and May, the bee gathers pollen all day long, but in June and July only till about 10 o'clock in the morning, probably because after that time the pollen, as well as the flowers, is a little dry and the small particles do not unite as well. In the afternoon it appears to seek only the flowers that stand in the shade. The dampness contained within the blossoms enables the bee to pack the pollen in little balls, which, in the bee-keeper's vocabulary, are called pollen baskets. If one catches a bee which is returning home, and examines the pollen baskets with a microscope he finds nothing but the dust from the anthers, which has as yet undergone no change; it does not alter when taken between the fingers and kneaded; if held over the fire in a spoon it does not melt but burns, and when it is put into water it sinks, which would not be the case if it were wax.

Should we proceed on the supposition that the particles of pollen contain wax and that the bee only removes the outer coating in order to obtain the wax, experiment will show that no amount of rubbing and kneading will produce wax from the particles. Earlier naturalists were of the opinion that the bee formed wax by mixing honey and pollen, however all experiments of this kind contradict the assertion. Neither can wax be produced, as some think, by mixing pollen with bee-poison. The following paragraph contains in a few words a statement of how wax is produced:

How does the bee produce wax? Pure wax is produced by the worker-bee from sweet juices and not from pollen. After a wax-worker has filled its sac with nectar from the flowers and returned to the hive it remains for some time hanging. In the meantime a chemical process takes place in its body, *i. e.* a decomposing of the honey and a separation of the materials. After some time it secretes between the rings on the under side of the abdomen a glutinous substance, which remains hanging to the body and forms into thin leaves. The bee loosens these semicircular portions from its body, passes them forward to its mandibles, and fashions them into cells. This is real wax. It is prepared in the body of the bee from honey, and emerges from the peculiar glands on the under side of the abdomen.—*Bienenvater Bohemia.*

Exporting Honey to Spain.

In an exchange we find the following item concerning the exporting of American honey to Spain:

A caveat was recently filed for protecting all honey stored in Harbinson's frames by means of an ingenious device of glass and pasteboard, which, when finished, presents the appearance of the neatest imaginable cap, weighing about 2½ lbs. each. One dozen of these are packed in a crate, and is a prominent feature in the trade, and is continually increasing. It is mostly sent to France, where it was not introduced until this last winter. We know our readers will be astonished when we tell them that a merchant chartered a sailing vessel to go to Malaga, Spain, for a cargo of raisins, and on her outward bound trip she carried no less than 10,000 lbs. of Mr. Harbinson's honey, protected and packed in this manner, to their branch house in Bordeaux, where it is being satisfactorily disposed of. There is a heavy duty in France on all goods packed in cans, jars or bottles imported into that country, so the trade in honey to that country will be confined to packages. Carpenters were employed, and this honey all made perfectly fast on board the vessel, and notwithstanding they encountered rough weather, it was landed in reasonably good order.

Pyrmont, Germany, May 18, 1879.

Your German book, entitled "Bienen-Kultur," came duly to hand. The contents are highly interesting, and in a great many places quite new to us. What a paradise for bees and their keepers is your country, in comparison to ours! With but little care, but with sound apistic knowledge, you get hundreds of pounds of the best honey, while we with unceasing care and study earn but a few pounds.

A. LOTTMANN.

Business Matters.

OUR TERMS OF SUBSCRIPTION,

PAYABLE STRICTLY IN ADVANCE.

Single subscription, one year	$1 50
Two subscriptions, sent at the same time	2 50
Three " " " "	3 50
Four " " " "	4 50
Five or more, " " "	each, 1 00

☞ If not paid strictly in advance, TWO DOLLARS per annum will charged in all cases.

Advertisements will be inserted at the rate of **20 cents** per line of Agate space, for each insertion, cash in advance. One inch measures fourteen lines. Special Notices 50 cents per line.

☞ A line will contain about eight words, fourteen lines will occupy an inch of space. Advertisements must be received by the 20th, to insure insertion.

Notice to Advertisers.—We intend only to advertise for reliable dealers, who expect to fulfill all their advertised promises. Cases of *real* imposition will be exposed, and such advertisements discontinued. No advertisement received for less than $1.

Address all communications and remittances to

THOMAS G. NEWMAN & SON,
972 & 974 West Madison St. CHICAGO, ILL.

TO CORRESPONDENTS.

When changing a post-office address, mention the *old* address as well as the new one.

We send the JOURNAL until an order for discontinuance is received and all arrearages are paid.

We do not send goods by C. O. D., unless sufficient money is sent with the order to pay express charges both ways, in case not taken from express office.

In consequence of the dearth of small currency in the country, we will receive either **1, 2 or 3 cent stamps,** for anything desired from this office.

Strangers wishing to visit our office and Museum of Implements for the Apiary, should take the Madison street-cars (going west). They pass our door.

Additions can be made to clubs at any time at the same rate. Specimen copies, Posters, and Illustrated Price List sent free upon application, for canvassing.

Remit by post-office money-order, registered letter or bank-draft, payable to Thomas G. Newman & Son, so that if the remittance be lost it can be recovered.

We will send a tested Italian Queen to any one sending us **FIVE** subscribers to the AMERICAN BEE JOURNAL with **$7.50.** The premium Queens will in every case be tested, but not sent till after July 1st.

Seeds or samples of merchandise can be mailed for one cent per ounce. Printed matter one cent for every two ounces. These must be tied up; if pasted, they are subject to letter postage. *Don't send small packages by express, that can just as well be sent by mail.*

For the convenience of bee-keepers, we have made arragements to supply, at the lowest market prices, Imported or tested Italian Queens, Full Colonies, Hives, Extractors and anything required about the Apiary. Our Illustrated Catalogue and Price List will be sent free, on application.

We have gotten up a "Constitution and By-Laws," suitable for local Associations, which we can supply, with the name and location of any society printed, at $2 per hundred copies, postpaid. If less than 100 are ordered, they will have a blank left for writing in the name of the Association, etc. Sample copy will be sent for a three-cent postage stamp.

Our answer to all who ask credit is this: We sell on **small** margins, and cannot afford to take the risks of doing a credit business. If we did such a business, we should be obliged to add at least 10 to 20 per cent. more to our prices, to make up for those who would never pay, and to pay the expenses of keeping book-accounts with our customers—this we know our **Cash** customers would not think to their advantage.—This rule we must make general in order not to do injustice to any one. The cash system gives all the advantage to cash customers, while the credit system works to their injury. In justice to all we must therefore require **Cash with the order.**

☞ The Iowa State Fair will be held at Des Moines, Sept. 1st to 5th, 1879. Those interested should send to Dr. J. R. Shaffer, Fairfield, Iowa, for a Premium List.

* * *

☞ The Seventh Annual Exhibition of the "Inter-State Industrial Exposition of Chicago" will open Sept. 3d and close Oct. 18, 1879. Four hundred thousand persons attended this exhibition, on an average each year, since the Exposition was opened to the public.

* * *

THE HIVE I USE.—This is a pamphlet of 16 pages, giving a description of the hive used by Mr. G. M. Doolittle; it is re-published from the BEE JOURNAL for March, for the convenience of the many who desire to get the particulars therein given, either for reference or making the hive for their own use. It can be obtained at this office: price 5 cents.

* * *

☞ *Moore's Rural Life,* is a periodical designed to promote the home interests of such city, village and country residents as delight in flowers, fruits, shrubs, landscape and kitchen gardening, and those pleasant adornments and surroundings which render life enjoyable, whether in cottage, villa or mansion. It is published at $1.50 per year by the Rural Life Publishing Co., 34 Park Row, N. Y. It is beautifully printed, and Mr. D. D. T. Moore, who is well known as one of the best editors of the age, is at the head of the Editorial Corps. It should find its way into every home in the land.

* * *

QUINBY'S NEW BEE-KEEPING.—Concerning this new work the *American Agriculturist* remarks as follows:

"Mr. Quinby was collecting materials for this revision when his long and useful career as our leading Apiarist was terminated by his sudden death. It is fortunate that his son-in-law, Mr. L. C. Root, was thoroughly prepared through a long business association and many years of joint experiment and investigation with him, to take up the work, and give not only Mr. Quinby's later views, but the results of his own experience. Being the latest work on the Apiary, it is also the fullest. In no industry have more important improvements been made within the past few years than in bee-culture, and these are embodied in this new edition. While work is adapted to the wants of the amateur bee-keeper, those who would take up bee-keeping for profit will find here the methods of one who has for years devoted himself to it as a business. Though Mr. Root modestly accepts the position of reviser, he is really joint author, the work being almost entirely re-written."

Cook's Manual of the Apiary.

There are already several masterly works on bees and bee-culture, yet each is lacking in some point. But the volume before us is simply marvelous in its completeness, beautiful in its simplicity, and fascinating in its style. Everything an apiarist needs to know is found fully explained. It is beyond question the fullest, most practical and most satisfactory work on the subject now published.—*Farm and Fireside.*

For the successful cultivation of bees, both for profit and pleasure, there is a book written by A. J. Cook, which is worth its weight in silver. It treats of all the phases of bee culture upon the most modern principles. No bee-raiser can afford to do without it, for with its valuable directions it will enable him or her to almost double their past results.—*Christian Advocate.*

"The Manual of the Apiary," by Prof. Cook, is the standard authority on bee-culture in America. It is the best as well as the most practical of all the recent works on this subject, which is now engaging the attention ot the public. The fourth edition is now in press. The work is written from the standpoint of practical knowledge, and the subject is treated in easy progressive lessons, in such a way that a child could master it.—*Western Stock Journal.*

It is a Manual that seems to be indispensable to the student of scientific apiculture, and is from the pen of a passionate lover of the honey bee who has given the whole subject of bee-culture a thorough study, resulting, as shown in the compact volume before us, as the *Country Gentleman* timely says, "in the fullest, most practical and most satisfactory treatise on the subject now before the public."—*Valley Home and Farm.*

In Cook's Manual is to be found everything that relates to the science of bee-culture, prepared in a masterly manner, and made thoroughly comprehensive to the most inexperienced novice in the art of honey-raising. No apiarist should be without a copy of this valuable work, which is authority upon all that pertains to bees, its author occupying the front ranks among the apiarists of the world. The typography of the book is excellent, and its illustrations graphically make plain many interesting points connected with apiculture.—*Rockland, Me., Courier.*

The author, Prof. Cook, is a scientific man, and brings to the subject a vast amount of knowledge, as to the anatomy, physiology and habits of the honey bee, which his knowledge of entomology enables him to do, and which other works on the subject do not contain. Besides Prof. Cook is an enthusiast in the mysteries of bee-keeping, and has had ample experience in the business.—*Florida Sun and Press.*

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☞ A club for the Bee Journal may be sent all to one post office or to as many post offices as there are names in the club.

Kind Words for the Journal.

The following unsolicited notices of the Bee Journal by our cotemporaries, are duly appreciated :

The American Bee Journal seems to be the "queen bee" among the journals of its class. It is well edited and printed, and a first-class paper in every respect.—*Real Estate Review.*

I have before me five different publications devoted exclusively to the interests of bee-keepers, and I must say I get more sound, practical information from the American Bee Journal than from any other. This is the oldest publication devoted to apiculture published in this country. Thos. G. Newman is an educated gentleman ; a fearless and fluent writer, and each number of the Journal is replete with good practical advice, with no fine-drawn theories to puzzle and confuse a novice.—*Clinton, Mich., News.*

The American Bee Journal is a flourishing magazine devoted to the specialty of bee-keeping. Its pages are filled with articles and correspondence from all parts of the country, some of them coming from faraway Germany. Its editor, Mr. Newman, who is President of the North American Bee-Keepers' Society, has been appointed by this Association to go to Europe this coming summer, and visit the various bee conventions and honey shows that are to take place in Great Britain and on the continent. —*Utica Daily Herald.*

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☞ A cable dispatch says that the king of Siam has been induced, by the American consul, to establish a general system of education among the natives. Some time ago we noticed the shipment of a large consignment of W. F. & John Barnes' foot-power machinery to Dr. McFarland, their agent in Siam. The king, we since learn, has appointed him at the head of this educational movement at a salary of $5,000. He proposes to introduce the industries, and among other things, he has introduced Barnes' foot-power machinery.—*Exchange.*

◆

☞ In the *Spirit of Arkansas* we see the following complimentary notice :

Dr. W. W. Hipolite, the great bee-culturist of Arkansas, and a very genial, pleasant gentleman, paid us a pleasant visit last week whilst in attendance upon the medical convention. The Doctor is largely engaged in bee-culture at DeVall's Bluff, and is the Vice President of the National Bee-Keepers' Association for the State of Arkansas. He says that our State is better adapted to the culture of bees than any other section of the United States with which he is acquainted. His experience is that the business is a very profitable one, when conducted upon scientific principles.

◆

☞ H. A. Burch & Co., of South Haven, Mich., were again burned out on May 30th.

Local Convention Directory.

1879. *Time and Place of Meeting.*

Aug. 10.—Lancaster Co., Pa., at Lancaster.
Sept. 2, 3.—N. E. Wisconsin, at Watertown, Wis.
17.—Warren Co., Iowa, at Indianola, Iowa.
Oct. 7.—Central Kentucky, at Lexington, Ky.
7.—Albany County, N. Y., at Albany, N. Y.
15—Central Michigan, at Lansing, Mich.
21.—National Convention, at Chicago, Ill.
23, 24.—Southern Kentucky, at Edmunton, Ky.

1880.
Feb. 11—Northeastern, at Utica, N. Y.

☞ In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—Ed.

Honey Markets.

CHICAGO.

HONEY.—White clover, put up in single-comb boxes, in slow demand. Prices paid for such, 10@13c. When more than 1 comb in a box, 9@10c. Dark, in the comb, slow sale at 8@10c. Extracted Honey, white, 7@8c.; dark, 6@7c.

BEESWAX.—Prime choice yellow, 23@24c; darker grades, 15@18c,

NEW YORK.

QUOTATIONS.—Best fancy white comb honey, 11@13c; extracted, new, 7@8c; buckwheat comb honey, 8@10c; beeswax, prime, 25c.

H. K. & F. B. THURBER & CO.

CINCINNATI.

COMB HONEY—In small boxes, 10@12c. Extracted, 1 ℔. jars, in shipping order, per doz., $2.50; per gross, $28.00. 2 ℔. jars, per doz,, $4.50; per gross, $50.00.

C. F. MUTH.

CALIFORNIA.

We quote comb honey nearly all out of the market; selling at 8@9c.; new none in the market as yet. Extracted, 4@6c.

Prospects very gloomy for a large crop this year.

STEARNS & SMITH, 423 Front St., San Francisco, Cal.

PURE ITALIAN QUEENS,

IMPORTED

Under the Personal Supervision of

J. POMETTA, of Gudo,

Canton Ticino, Switzerland.

I shall start for America with a lot of the very best of purely fertilized Italian Queens, in June, and expect to be in Chicago, Ill., with them about July 15, 1879. I solicit orders for them, sent to me in care of the AMERICAN BEE JOURNAL office (by permission), as I shall be a stranger in a strange country. **Price, $5.00 each. A liberal discount on orders of five or more.**

I have been supplying Pure Italian Queens to Mr. C. N. Abbott, Editor of the *British Bee Journal*, and to Messrs. Neighbour & Son, of London, ever since 1873. They have obtained several prizes on these Queens at the Bee and Honey Shows of England. Orders solicited. J. POMETTA.

1879.—ITALIAN QUEENS.—1879.

As good as the best and as cheap as the cheapest. Purity, safe arrival, and satisfaction guaranteed. Send for Price List. Address,
REV. J. E. KEARNS, Waterloo, Juniata Co., Pa.

CHEAPEST AND BEST

EXTRACTOR!

Send $2.50 and receive the above. See June No. of the A. B. Journal. WM. THOMSON,
7 1051 Grand River Ave., Detroit, Mich.

Comb Foundation, 45 to 50c. per lb.

B. B. BARNUM,
1t 380 Preston St., Louisville, Ky.

Bingham Smoker Corner.

Otley, Iowa, June 10, 1879.

My apiary is increasing, and I am very busy. It seems to me that I could hardly have success in the bee business without the AMERICAN BEE JOURNAL and Bingham's Smoker. Please send one of Bingham's Standard Smokers with rag-burning attachment, immediately. W. C. NUTT.

DePere, Wis., June 12, 1879.

Many thanks for promptness; the smokers have all been received, and give the greatest satisfaction. My own has now been in constant use for three years, lighted every day and burning all day long during the bee season, and though I see new ones around me, I never wish or think of taking one. It has gone out but three times, and then from my own carelessness. FRANCES DUNHAM.

Milledgeville, Ill., June 3d, 1879.

The two dozen smokers duly received, also your beautiful and well made honey knife. It is a model of neatness and durability. I predict that I shall like it. It is, like your smokers, well made, from first class material. That is the way I do; I use good material, and spare no pains in doing accurate work. You have the inside track on smokers; the principle is clear, and I think cannot be dodged by others. Your smokers beat the world for power and quick action. F. A. SNELL.

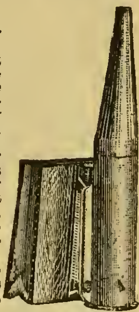
SOMETHING OLD!

OLDEST AND BEST!

The old, reliable, original, direct-draft Smoker.

This Smoker is so perfect that it has never been improved. The more exact the copy the better the Smoker and the plainer the infringement. Beware of all new direct-draft Smokers — Bingham owns all there is of value in them. Every seller and user is liable. Our Smoker has been in use two years longer than any bellows Smoker now made. If you want the best Smoker and no further expense, buy only the Bingham. If you want to encourage invention and not theft, buy only the Bingham.

Standard size, 2-inch..........$1 50
Little Wonder, 1¾-inch........ 1 00
Extra large, 2½-inch........... 1 75



Sent free, per mail, on receipt of price. A discount of 12 per cent. made from retail rates on all smokers sent by express with or without one or more Bingham & Hetherington patent Honey Knives.

Address, **T. F. BINGHAM,** Otsego, Mich.

SPECIAL RATES.

BINGHAM & HETHERINGTON have made arrangements with the American Express Company at Otsego, to carry honey knives over their routes and either one of the other Express routes named below at 18 cents per knife, in single packages. This arrangement, it will be seen, will carry knives to all places where one of the Express Companies mentioned is located: American, Adams, United States, National, Union, Central, New Jersey, Delaware, Lackawana and Western. Address,
BINGHAM & HETHERINGTON,
Otsego, Mich.

FOR CANADA.

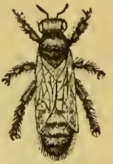
Bee-Keepers in Canada can, by ordering

APIARY SUPPLIES,

Queens, etc., from us, save long freights, duties, custom-house charges and annoyances. Our queens and supplies are the best that can be produced. Catalogue sent free. W. G. WALTON, Hamilton, Ont.

FLAT-BOTTOM COMB FOUNDATION.
—High side-walls, 4 to 16 square feet to the lb. Circular and samples free.
J. VAN DEUSEN & SONS, Sole Manufacturers.
7-8 Sprout Brook, Mont. Co., N. Y.

ITALIAN QUEENS.



That there is a vast difference in the practical, desirable qualities of Italian bees, is a fact well known by all who have bred them on a large scale. We have for many years past kept this point in view, and have perfected a strain of bees that excel as honey-gatherers, at the same time securing the desirable quality of hardiness that enables them to safely pass our coldest winters. We shall continue to rear and sell choice queens from this strain of Italian blood, during the season of 1879, at the following reasonable prices. We ship no dollar queens until they are fertile and begin to lay.

Untested queens, each		$1 00
" "	per half dozen	5 75
" "	per dozen	11 50
Warranted "	each	1 50
" "	per dozen	15 00
Tested "	each	2 50
" "	per dozen	25 00
Selected tested queens, each		3 50
Imported queens, each		4 50
Italian 7 frame nuclei, with dollar queens, each		3 00
Ditto. ditto.	per dozen	30 00
Ditto. ditto.	with tested queen	4 50
Ditto. ditto.	with imported queen	6 50

At above prices *we pay express charges on Nuclei* to any point reached by the American Express Company, and on 3 or more queens, to any point reached by the American, United States, Adams, or Union Express Companies.

☞ For prices of smokers, knives, comb foundation, honey extractors, wax extractors, prize boxes, etc., see May *American Bee Journal*, or send for our descriptive 40-page Catalogue. Send money by post-office order, bank draft, registered letter or express, and address your orders to

HERBERT A. BURCH & CO.,
1-tf South Haven, Mich.

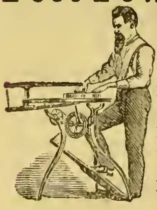
ITALIAN QUEENS.

I am still breeding pure Italian Bees from Imported and Selected Home-bred Queens.

Single Tested Queen	$2 00
Warranted Queen	1 50
Not Warranted Queen	1 00
Full Colonies, after October 1st	6 00

Address, **T. G. McGAW & SON,**
7-10 Lock Box 287, Monmouth, Warren Co., Ill.

BARNES' PATENT
Foot-Power Machinery



CIRCULAR and SCROLL SAWS

Hand, Circular Rip Saws for general heavy and light ripping. Lathes, &c. These machines are especially adapted to **Hive Making.** It will pay every bee-keeper to send for our 48 page Illustrated Catalogue.

W. F. & JOHN BARNES,
Rockford, Winnebago Co., Ill.
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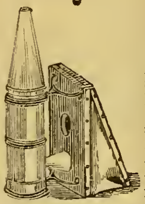
CUTS FOR SALE.

Electrotype Cuts of any of the Extractors or Bee Hives, for illustrating circulars, pamphlets, and for advertising, by mail, post-paid, each	$1 00
Queen cuts (three different styles) each..75c. and	1 00
Italian or black workers, or drones, each	75

We also furnish electrotypes of any of our cuts used in the BEE JOURNAL, or will have engravings made of anything desired.

The Quinby Bellows Smoker



has now been upon the market for six years, and was the first practical BELLOWS SMOKER MADE. A Patent has been granted it over all other smokers that have copied it. Its rights are maintained by Hetherington, Elwood, Doolittle, Alley, Dadant, and unprejudiced bee-keepers everywhere. Protection guaranteed to all selling and using it. Every Smoker guaranteed THE BEST in market or money refunded.

QUINBY'S NEW BEE-KEEPING

will be mailed promptly on receipt of $1.50. It is commended by all.

Prof. Cook says: "I rejoice in the book, and have only praise for it."

G. M. Doolittle says: "I consider it the most practical work on bees extant, and fully up to the times."

"I had expected a good book, but it far surpasses my expectations."—P. H. Elwood.

"I do not hesitate to pronounce it the best practical book on the subject published."—J. E. Hetherington.

For prices of smokers and other goods, address
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Save Your Fowls,

and get Circular and Price List of Italian Bees, Pure Bred Fancy Poultry, &c., by sending your address to
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We supply the AMERICAN BEE JOURNAL and any of the following periodicals at the prices quoted in the last column of figures. The first column gives the regular price of both.

Gleanings in Bee Culture	$2 50	$2 25
Bee-Keepers' Magazine	3 00	2 50
The three Bee papers of U. S.	4 00	3 25
British Bee Journal	4 00	3 50
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Moore's Rural New Yorker	4 15	3 25
National Live Stock Journal	3 65	3 15
Prairie Farmer	3 50	3 15
Scientific American	4 90	4 35
Western Rural	3 50	3 15

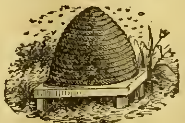
Every Bee-Keeper should take the

AMERICAN BEE JOURNAL

ESTABLISHED IN 1861,

By the eminent bee-master, SAMUEL WAGNER.

IT IS **Oldest,** AND **Reliable**



THE **Largest,** MOST **Bee-Paper**

IN AMERICA!

It is the best scientific and practical Journal of APICULTURE ever published. The most successful and experienced Bee-keepers in Europe, as well as America, write for it.

TERMS: $1.50 PER ANNUM.

Send **10** cents for a Sample Copy.
Catalogue of Implements for the Apiary sent FREE.

THOMAS G. NEWMAN & SON,
972 and 974 West Madison St., CHICAGO.

BEFORE

purchasing colonies with imported queens, or home-bred queens, Italian queens, COMB FOUNDATION, and implements in bee culture, write for circular with prices, and sample of comb foundation free.

Our foundation for beauty and purity cannot be excelled.

TESTIMONIALS.

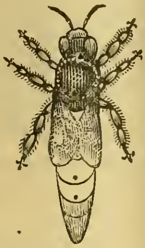
The sample of foundation is the nicest that I have ever seen, take all points together.
G. M. DOOLITTLE, Borodino, N. Y.

Your foundation is O. K.—it looks brightest of them all. Send me 200 lbs. more.
CHAS. F. MUTH, Cincinnati, O.

We have scores of similar praises.

CHAS. DADANT & SON,
Hamilton, Ill.

1879. 1879.



REV. A. SALISBURY & HAYES,

CAMARGO, ILL.,

Breeders of Pure Italian Bees and Queens, from Imported and Home-Bred Mothers, and Manufacturers of Hives, Prize Boxes, Comb Foundation, and all general Apiarian Supplies.

BEES.

Reserved and Early Tested Queens	$3 00
Queens, July to September	2 50
Colonies of 10 frames	9 00
" 12 "	10 00
Nucleus, 1 frame	4 00
Comb Foundation, 10 lbs. or over, per lb	50

Wax cleaned and worked for 25c. per lb., or on one-half shares.

☞ Send for Circular. 2-7

Cheap Hives.

See our "ad." in JOURNAL for December, January, February and March.

CHEAP SECTIONS.

Following prices are for any size up to 6x6:

Plain, sawed smooth, per 1,000	$4 50
" sandpapered, "	5 50
Dovetailed, sawed smooth, per 1,000	5 50
" sandpapered, "	6 50
Lewis' Sections (all in one piece), sandpapered, per 1,000	7 50

Lewis' Honey Boxes and Dovetailed Honey Boxes, very cheap, all of excellent material and Workmanship. All Sections grooved for foundation. No charge for boxing. Discount on large orders.

☞ Send for Price-List.

LEWIS & PARKS,
successors to G. B. LEWIS, Watertown, Wis.

PURE ITALIAN QUEENS.

I can furnish pure Tested Queens, in June, for $2.00; Untested, $1.00; per dozen, $11.00. My Queens are all bred from imported mothers. Also, a nice article of Comb Foundation at a very low price. Send for sample.

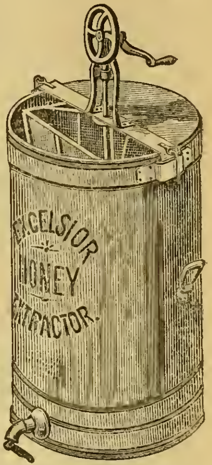
A. F. STAUFFER,
Sterling, Whiteside Co., Ill.

COFFINBERRY'S

Excelsior Honey Extractor

Sizes and Prices:

No. 1.—For 2 Langstroth frames, 10x18 inches	$8 00
" 2.—For 2 American Frames, 13x13 inches	8 00
" 3.—For 2 frames, 13x20 inches or less	12 00
" 4.—For 3 " " " "	12 00
" 5.—For 4 " " " "	14 00


EXCELSIOR HONEY EXTRACTOR.

Having made many improvements in the EXCELSIOR EXTRACTOR for 1879, it is now offered to the Bee-Keepers of America as the MOST PERFECT MACHINE in the MARKET. The universal favor with which the EXCELSIOR EXTRACTOR was received in 1878, has induced other manufacturers to adopt several of its improvements. My experience and experiments of last season, with the assistance and suggestions of skillful workmen, have enabled me to perfect an Extractor that **cannot be excelled, and can only be equaled by being closely imitated.**

Some of its advantages are as follows: It is made entirely of metal. It is light, but has attachments for fastening down to a platform. It can be instantly taken to pieces for cleaning, having no rusty screws to take out or nuts to remove.

The top or cross-band, to which is attached the gearing, is wrought iron, three inches broad, with the ends turned down in such manner as to thoroughly brace and strengthen the can and hold the basket firmly in an upright position.

The strong over-motion gearing, so necessary to ease in running and speedy operating, was designed and is manufactured expressly for the Excelsior. A child ten years of age can operate the machine as rapidly as it can be supplied with combs.

The Comb Basket having vertical sides, insures the extracting power alike for top and bottom of frames. The sides of the basket being movable and interchangeable, greatly facilitate the operation of dusting before and thoroughly cleaning after use.

It has a small comb-holder for extracting pieces of comb or partly-filled sections.

At the bottom of the can, and below the basket, is a cone or metal standard, in the top of which revolves the bottom pivot of the basket, thereby giving room for sixty or seventy pounds of honey without touching the basket or pivot below.

Nos. 3, 4 and 5, have neatly-fitting covers, movable sliding sides to the baskets, and movable strainers covering the canal to the faucet, whereby all honey can be drawn off without a particle of sediment.

The baskets of Nos. 4 and 5 have no center rod running from top to bottom, which will be found very convenient by those who uncap both sides of the comb before putting in the basket, as they can be turned without removal.

The wire baskets are very neat specimens of skillful workmanship, thoroughly braced at every point where experience has proven it to be most requisite, and nothing has been omitted that could add to its efficiency.

The No. 4, for **three** frames, has a triangular basket, movable sides, no center rod, runs smoothly regardless of number of frames, and is fast superseding the demand for four-sided baskets.

A LOWER PRICED MACHINE

being called for by those having but few colonies, and not making a specialty of bee-keeping, I have made a special size to take the Langstroth frame, and one for the American, to sell at **$8.00** each. These have no covers or strainer, and are smaller than the $12.00 and $14.00 sizes, but for the frames named are equal to the others for effective work, and are the **best cheap Extractors made.**

☞ A liberal discount to dealers.

Address, **C. C. COFFINBERRY,**
Or **American Bee Journal, Chicago, Ill.**

BEFORE PURCHASING

Supplies for your Apiary, send a postal card with your name (and if you will do us the kindness, those of bee-keeping neighbors) for our illustrated circular of Apiarist's Supplies, of every description; sample Sectional Box, and Comb Foundation made on the

Dunham Foundation

machine, which is the latest improvement in that line. We wish to place these samples before

EVERY READER

of this JOURNAL, and hence offer them **FREE.** Just send your name at once. Special attention given to rearing Italian Queens and Bees.

☞ We have secured the general agency of the above machine.

The highest price paid for Beeswax.

1-tf J. C. & H. P. SAYLES, Hartford, Wis.

THE BLESSED BEES,

BY JOHN ALLEN.

Published by G. P. PUTNAM'S SONS, 182 Fifth Avenue, New YORK.

Price, post-paid, $1.00.

This Romance of Bee-keeping has received wide commendation for its literary excellence and its contagious enthusiasm.

I scarcely looked up from the volume before I had scanned all its fascinating pages.—*Prof. A. J. Cook.*

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The book is beautifully written, and commanded my undivided attention from the beginning to the end. In justice to your inexperienced readers, I think you ought to have called it "The Romance of the Blessed Bees."—*Rev. L. L. Langstroth.*

It has the fascination of a novel. Its English is so simple, terse, and good, that it has given me real delight.—*Mrs. Helen Hunt Jackson* ("*H. H.*")

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His method of procedure is told in simple, beautiful language, and the story is more fascinating than many a novelette with greater pretensions.—*Christian Register.*

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So delightfully written that no one can fail to enjoy it.—*N. Y. Churchman.*

For sale at the Bee Journal Office.

ITALIAN QUEENS AND BEES.

Send for price-list of Queens, full colonies, four-frame nuclei, comb foundation, and apiarian supplies. Satisfaction and safe arrival guaranteed. All Queens reared from Imported Mothers.

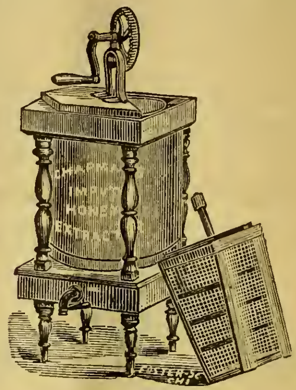
4 H. H. BROWN, Light Street, Col. Co., Pa.

Golden Italians.

We have them in their purity. Circulars and prices free.

J. M. BROOKS & BRO.,
4-9 Box 64, Columbus, Ind.

Good Extractors, Cheap!



Send me **TEN DOLLARS,** and the size of your frames, and I'll send you the best Extractor made (a premium machine), and a curved-pointed honey knife with it. *I want to sell out.*

6-tf F. W. CHAPMAN, Morrison, Ill.

ITALIAN QUEENS—All bred from Imported Mothers of my own importation. Dollar and Tested Queens from 1st April to 1st November. Full Colonies and Nuclei; Bee-Keepers Supplies of all kinds; Comb Foundation, etc.

6-tf PAUL L. VIALLON, Bayou Goula, La.

FOR IOWA AND MINNESOTA.

Purchase your tickets via THE IOWA ROUTE, composed of the Burlington, Cedar Rapids & Northern, and Minneapolis & St. Louis Railways. The only line running Through Pullman Palace Sleeping Cars between St. Louis, Burlington, and all points on the line of the Burlington, Cedar Rapids & Northern Railway and Minneapolis.

A full line of Excursion Tickets will be sold at principal stations for the noted summer resorts of MINNESOTA, from June 1st to October 15th, at a LARGE REDUCTION from regular rates. Tickets good for 60 days from date of sale, but in no case longer than October 31st, following date of sale. The Minnetonka Lake Park Association have bought and improved 225 acres of land, in which are located fine hotels, which will accommodate 3000 people. Besides the sources of amusement incidental to the lake, the Park Association will hold a Musical Convention July 28th to August 1st; Grand Temperance Congress of Iowa, Minnesota and Wisconsin, August 2d to 5th; Sabbath School Assembly, August 6th to 20th.

Don't fail to go and enjoy the attractions offered by Minnesota. B. F. MILLS, Ass't G. T. Agent.
C. J. IVES, Superintendent.

BEFORE

purchasing colonies with imported queens, or home-bred queens, Italian Queens, COMB FOUNDATION, and implements in bee-culture, write for circular with prices, and sample of comb foundation free.

Our foundation for beauty and purity cannot be excelled.

TESTIMONIALS.

The sample of foundation is the nicest that I have ever seen, take all points together.
G. M. DOOLITTLE, Borodino, N. Y.

Your foundation is O. K.—it looks brightest of them all. Send me 200 lbs. more.
CHAS. F. MUTH, Cincinnati, O.

We have scores of similar praises.

CHAS. DADANT & SON,
Hamilton, Ill.

ITALIAN QUEENS,

1879.

Price, April, May and June..................each, $3 00
" July, August and September........ " 2 00

STANDARD OF PURITY.

All Queens guaranteed to be of good size, vigorous and producing workers large and uniformly marked with three distinct yellow bands, of fine golden color.

We shall have a shipment of fine *Tested* Queens, from Italy, in April, selected for our Apiary.

No Circulars. [2-tf] A. F. MOON, Rome, Ga.

Italian Queens or Colonies.

Eighteen years experience in propagating Queen Bees from imported mothers from the best districts in Italy. Persons purchasing Queens or Colonies from me will get what they bargain for. Send for circular.

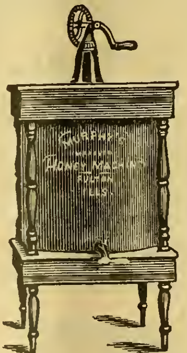
WM. W. CARY,
3-tf Colerain, Franklin Co., Mass.

DUNHAM
FOUNDATION MACHINE!

And also everything of any practical value in the Apiary: Hives, Sections, &c. Samples of Foundation made upon the above machine FREE. Circulars sent on application.

FRANCES DUNHAM,
3-8 Depere, Brown Co., Wis.

Murphy's Honey Extractor.



Send for Murphy's Price List of Honey Extractors for 1879. The

Only American Extractor

that was awarded a

Medal & Diploma

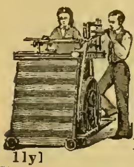
by the regularly appointed judges at the Centennial Exposition of 1876. Also,

SECTION

Honey Boxes

of all kinds, at low rates.

Address,
R. R. MURPHY,
Garden Plain,
5-7 Whiteside Co., Ill.



JOYFUL News for Boys and Girls! Young and Old!! A NEW INVENTION just patented for them, for Home use! Fret and Scroll Sawing, Turning, Boring, Drilling, Grinding, Polishing, Screw Cutting. Price $5 to $50. Send Stamp and address

EPHRAIM BROWN, Lowell, Mass.
1ly]

Queens. 1879. Queens.

We shall be able to furnish Italian Queens after May 15th, at following prices:

Choice Tested Italian Queens	$2 50
Warranted " "	1 50
Queens bred from Imported Mothers, but not warranted....................................	1 00

FOUL BROOD

will be cured with our "Foul Brood Remedy." Cure warranted. Write for particulars.

4tf MILLER & HOLLOM, Kewaskum, Wis.

QUEENS!

Tested, Warranted and Dollar Queens.

Send address on postal for circular and prices of

QUEENS, FULL COLONIES,

COMB FOUNDATION,

HONEY BOXES,

SECTIONS,

SMOKERS,

and all useful implements for bee-keepers to

JAMES HEDDON,

DOWAGIAC, MICH. 3-10

1865.— **THE** —1879.

HONEY
HOUSE.

C. O. PERRINE, 54 & 56 Michigan Av., Chicago.

As a Manufacturer of

COMB FOUNDATION,

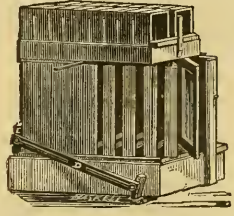
I can say my goods have given entire and universal satisfaction. The ruling low prices were made by me, and any one desiring any considerable quantity would do well to consult me before buying elsewhere.

☞ Market price for Beeswax.

ARMSTRONG'S

IMPROVED

CENTENNIAL BEE HIVE.



This hive gives entire satisfaction wherever it has been used. It is very simple in construction, and for ease and rapidity in manipulating, out-door wintering, &c., it is the I. X. L.

Descriptive circulars sent free to all.

Address,
E. ARMSTRONG,
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Baker & Co. DESIGNERS AND PHOTO ENGRAVERS ON WOOD.
COR. CLARK & MONROE STS. CHICAGO.
DEALERS IN ENGRAVING TOOLS & ENGRAVERS OUTFITS.
ORDERS BY MAIL SOLICITED.

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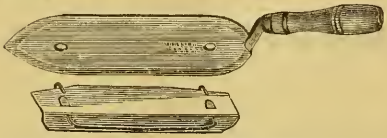
HONEY KNIVES!



Are used plain, if the combs are held upright, and with the cap-catcher, if laid on a table. They are not *like any other* honey knife ever made. They are superior in finish and temper, and do much more and better work. *No one can afford to be without one.* Plain, $1.00 ; with movable cap-catcher, $1.25. Send for Circular for dozen rates for Knives and Bingham Smokers to BINGHAM & HETHERINGTON,
Abronia, Allegan Co., Mich.

Bee-Keepers' Supplies!

I shall continue to sell, at reasonable rates, a large variety of Bee-Keepers' Supplies, such as

MUTH'S ALL-METAL HONEY EXTRACTOR,

UNCAPPING KNIVES,

WAX EXTRACTORS,

LANGSTROTH BEE HIVES,

SECTIONAL BOXES,

SQUARE GLASS HONEY JARS,

to hold one and two pounds each, with Corks, Tinfoil, Caps and Labels, ½ lb. Tumblers, Glass Fruit Jars, &c.

COMB FOUNDATION,

BEESWAX, GLOVES, VEILS, STRAW MATS, ALSIKE CLOVER SEED,

as well as a great assortment of Garden and Field Seeds, &c. For further particulars address,

CHAS. F. MUTH,

2-tf 976 and 978 Central Ave., Cincinnati, Ohio.

Oesterreische Bienen-Zeitung.

Allgemeines Organ fur Bienenzuecht, Organ der Gesellschaft der Bienenfreunde in Bœhmen. A monthly paper devoted exclusively to bee-keeping. Price, 1f. 20c.—Austrian value. 60c. a year. The cheapest and largest Austrian bee journal ; contributors are the best practical writers on bee-keeping in all parts of the world. The only German journal that furnishes reports and items from the American and English bee papers. Addresses to be sent to RUDOLF MAYERHŒFFER, Publisher of the Oestern Bienen-Zeitung, Praga Neustadt 747.

L'APICULTEUR, is the title of the French Monthly Journal devoted to bee-culture, edited and published by Mons. H. Hamet, Rue Monge 59, Paris. Price 7 francs.

J. OATMAN & SONS'
CORNER.

We wish to inform our friends that we are producing

COMB FOUNDATION,

in large quantities and of superior quality. Our facilities are such that we can supply in any quantity desired on short notice, and all favoring us with their orders shall have prompt and satisfactory attention. In at least one point our foundation excels that produced by any manufacturer in the country. Will supply in any quantity wanted, or size desired, at the following prices :

1 to 20 lbs., per lb.	55c.
25 to 45 " "	53c.
50 to 90 " "	52c.
100 to 400 " "	50c.
500 to 900 " "	48c.

1000 lbs. and upwards, special figures.

If ordered in lots of 5, 10, 15, 25, 50 or 100 lb. boxes, 8x16½ or 12x18, ten per cent. may be deducted from the above figures.

Wax to be made into Foundation.

Lots of 100 lbs. and upwards sent us, with 12½c. per pound, freight pre-paid, will be made up and cut to any size, and delivered on board cars here.

Italian Queens.

The superiority of the Queens reared in our apiaries is so well established, we shall not here detail their merits ; but to those wishing honey-producing stock, combined with prolificness, we will say they are not beaten. Our arrangements for breeding largely are complete, and we shall take pleasure in booking *your order now.* Those desiring Queens among the first sent out, will do well to order at once.

Dollar Queens, each	$1 00
" " per doz.	11 50
Warranted Queens, as good as ordinary Tested, each	1 50
Ditto ditto ditto per doz.	15 00

Langstroth and Modest

BEE HIVES,

for the million, at prices to suit the times.

Honey Boxes and Sections,

plain and dovetailed, are large specialties, and if you desire a nice job, at a fair price, we can accommodate you.

Extractors, Smokers, Bee Veils,

and everything needed in the apiary, supplied at the lowest living rates. Order your goods early, remembering that *large* yields of honey are only obtained by having *everything ready* for securing it.

J. OATMAN & SONS,

4-tf Dundee, Kane Co., Ill.

Look Here.

HART'S IMPROVED

LANGSTROTH HIGH-PRESSURE BEE HIVE!

After about fifteen years experimenting, simplifying and utilizing, I have succeeded in arranging a hive that I am confident possesses more advantages for less money than any other yet offered, and as it is patented—by letters dated 1868 and 1872—will state some of the advantages: It is double and triple walled, *one thickness tarred roofing paper*, side opening, fast or loose bottom, adjustable portico and honey-board, can be used single or two-story, long, low brood-chamber, or compounded to suit any sized swarm, either for comb or extracted honey, breeding colonies or for a non-swarmer. Now, after testing my hive thoroughly, I wish to introduce it to the bee keepers of the United States, either by selling territory very cheap, or by responsible agents, giving references, to manufacture and sell on a royalty. By sending 25 cents in stamps you will get a pamphlet of 50 pages, describing it more particularly, and giving much useful matter pertaining to my plan of working. &c. **A. H. HART.**

Appleton, Wis., March 12, 1879. 4-tf

1879. QUEENS! QUEENS! 1879.

ITALIAN QUEENS!
CYPRIAN QUEENS!
HUNGARIAN QUEENS!

During the past eighteen years we have been

HEAD-QUARTERS!

for Italian Queen Bees, and now we have added the Cyprian and Hungarian bees to our stock. To be up with the times, we shall continue to sell

DOLLAR QUEENS!

With our long experience in the Queen-rearing business, we can warrant all our Queens to be purely fertilized, and we also guarantee safe arrival by *mail* or *express*. Parties intending to purchase Queens the coming season should read our

Special "Queen Bee" Circular!

giving instructions for introducing Queens safely, and containing other information valuable to bee-keepers. All bee-keepers should read our eighteenth annual circular and price-list of apiarian supplies. Both circulars sent free.

PRICES OF QUEENS.

Tested Queens, each	$2 00
" " per dozen	20 00
Warranted Queens, each	1 00
" " per dozen	11 00

IMPORTED QUEENS.

Cyprian, each	$10 00
Hungarian, each	5 00
Italian, each	4 50

H. ALLEY,
Wenham, Essex Co., Mass.

LAND IN FLORIDA.

640 ACRES OF TIMBER LAND in Northern Florida, about 50 miles south of the Georgia Line, 25 miles west of Tallahassee, and near the Apalachicola river. Title clear and unincumbered. Will trade the above described land, either a part or the whole, for a farm or an apiary in some North-western State, at a fair valuation for both. For particulars, giving a description of what you wish to offer in exchange, addresss, FLORIDA LAND, care AMERICAN BEE JOURNAL, Chic go.

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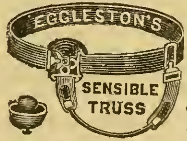

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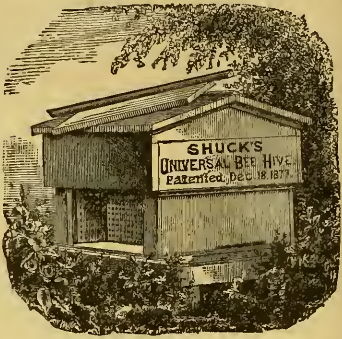

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Is devised by a practical bee-keeper for PROFITABLE use: double walls, with either dead air space or chaff packing; inside walls are porous, allowing all moisture to escape from the brood chamber, keeping it perfectly dry, sweet and wholesome, even with unsealed stores; both sides are removable; frames hung upon metal supports on the top of the end walls (not in rabbets) and are easily handled; brood chamber large or small, as desired, and may be as complete with one frame as with a dozen; space for 96 pounds surplus honey within six inches of the brood nest. No colony need be lost during the winter months in this hive. No melting combs in this hive during the hot weather. Positively

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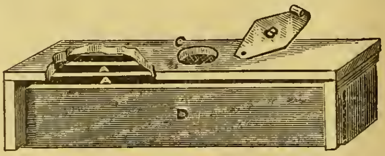

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Removes all the obstacles in the way of feeding, by its simplicity, cheapness, and its adaptability to the purposes required. It is to be placed at the entrance outside the hive, and supplied with sugar syrup, or syrup and flour any time in the day, without annoyance from bees, either to the bee-keeper or the colony being fed; no bees can reach the food except from the inside of the hive. Every bee-keeper appreciates the advantage of feeding to supply short stores for the colony, or to stimulate and encourage breeding, previous to an expected flow of honey.

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THE AMERICAN BEE JOURNAL

Devoted Exclusively to Bee Culture.

VOL. XV. CHICAGO, ILLINOIS, AUGUST, 1879. No. 8.

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Editor's Table.

National Convention Essays.

Since the July issue of the JOURNAL, Prof. Cook has changed the subject for his essay, which was announced to be "Wintering Bees, Physiologically Considered." In view of there being several dissertations on wintering bees, he has announced for his subject, "Comparative Length of the Tongues of Different Races of Bees." The following additional announcements have also been received:

"Moving Bees"—N. P. Allen, Smith's Grove, Ky.

"The Next Progressive Step"—Frank Benton, Lansing, Mich.

"Wintering Bees, Theoretically and Practically considered"—H. H. Flick, Lavansville, Pa.

"Miscellaneous Topics"—M. M. Baldridge, St. Charles, Ill.

"Foul Brood; its Dangers and its Cure." —Chas. F. Muth, Cincinnati, Ohio.

"Bee Forage in the South."—Dr. J. P. H. Brown, Augusta, Ga.

◆

☞To those engaged in harvesting and other occupations tending to create thirst, we recommend a trial of the following preparation, which we find in a recent number of the *Western Rural*. We have not tried it, but have no doubt it will make a very palatable and healthful drink in hot weather:

Take 12 gallons of water, 20 lbs. of honey and six eggs, using the whites only. Let these boil 1 hour; then add cinnamon, ginger, cloves, mace and a little rosemary. When cold add one spoonful of yeast from the brewer. Stir it well, and in 24 hours it will be good.

Bee and Honey Show in England.

As announced in last month's Bee Journal, the editor started for Europe on June 14th, and after a series of accidents and delays, arrived in London July 3d at 6 a. m., and repaired to the great London show at Kilburn, which is now the one thing talked of in England. A large sum has been expended in fitting up the grounds, but the almost uninterrupted rain for the first 3 or 4 days caused the whole place (being clay soil) to be an intolerable mud-hole; the "slush" being almost knee-deep. We were received with much enthusiasm by the officers and members of the British Bee-Keepers' Association, and at the Bee Tent, where public exhibitions of manipulations with living bees were held, we gave an address on American bee-culture, and gave a description of our methods of management.

The judges for honey, hives and bees were William Carr, of Newton Heath, Manchester; Thomas W. Cowan, Horsham, Sussex; Rev. George Raynor. Hazeleigh Rectory, Malden, Essex.

The most of the judging took place on Monday, June 30th. The highest award for the best display of pure honey was given to H. K. & F. B. Thurber & Co., of New York. This exhibit consisted of honey produced by Capt. Hetherington, P. H. Elwood, C. R. Isham, G. M. Doolittle, Charles Parlange, J. S. Harbison, J. Oatman & Sons, Hiram Roop, W. H. House, W. S. Rainey, N. N. Betsinger, (a sample 2 years old and wonderfully well preserved), Mr. Adsit, Mr. Hoffman, and four others, whose names I could not find out from the marks upon the boxes. The varieties were white clover, basswood, buckwheat, white sage and golden rod.

Sunday and Monday were splendid days, and the fair was formally opened by the President, H. R. H., the Prince of Wales. On that day the exhibit of American honey was arranged with full attention to details and resembled very much the show made at the American Institute Fair last year, occupying the central place in the tent.

The Prince came in more state than did the Queen, and was accompanied by her Royal Highness, the Princess of Wales, and the Princesses Louise, Victoria and Maud of Wales. They were accompanied by Col. Arthur Ellis, and were conducted by Mr. Jacob Wilson, Steward General of Arrangements, the Duke of Bedford, the Duke of Manchester, Col. Kingscote and Lord Beaconsfield, as well as the Lord Mayor of London. The whole party halted in front of the American honey exhibit, and his Royal Highness listened with seeming interest to what Mr. Hoge had to say concerning it. Both the Prince and Princess asked him several questions. The *Royal Agricultural Showyard Gazette* remarks as follows concerning the exhibit of American honey and its royal admirers:

> "One must pity the poor unfortunates who stand by the side of their neglected wares, striving to induce some passer-by to read a circular in which the extraordinary merits of those wares are fully elaborated; but the popular exhibitor is a happy fellow, and so seemed the representative of those great honey dealers, Messrs. H. K. & F. B. Thurber & Co., of New York. The exhibit of these gentlemen appeals to the curiosity of all visitors, and consists of an immense square made up of boxes of honey; this honey looks crisp and fresh; above this square are piled cakes of square golden beeswax. Last Monday the Prince and Princess of Wales and three royal children alighted at the tent of the British Bee-Keepers' Association, and halted with the Lord Mayor and others in front of this American display. In reply to a question put regarding the extent of the honey industry in the United States, the gentleman in charge said that the United States is credited with 35,000 people who follow bee-keeping; these apiarists own on an average 20 colonies of bees each or 700,000 in all, which it is estimated will produce 50 lbs. of surplus honey per annum, the total of which is 35,000,000 lbs."

A few other exhibits intended for show were also sent over, but they came on the Macedonia, and did not reach here until last Sunday; too late for the fair. However, they were permitted on the ground, but not to be entered for competition. These were a hive from Capt. Hetherington, a smoker from Mr. Root, an extractor from Mr. Everett, and some supers from Mr. Isham. All of these were much admired, and no doubt had they been in time would have taken awards.

The second prize for honey was awarded to England, and the third to Signor Lucio Paglia, of Italy.

The highest prize for bee-hive was awarded to Mr. Abbott, of the *British Bee Journal*, and the second to Mr. Hooker.

The President of the American Bee-Keepers' Association was awarded a hive of British manufacture for the best display of apiarian supplies. This hive is the one Mr. Abbott took the prize with.

Mr. Abbott was also given the first prize for bee driving. He transferred a colony from a straw hive into a bar-frame hive in 14½ minutes, and captured the queen in 5 minutes. Mr. Baldwin took the second prize; doing the job in 20 minutes.

The London papers say that the Bee Tent and exhibit of bee-furniture are "the most popular resorts of the show." The Prince of Wales and the Princess were much interested in this department. The Prince after viewing the American honey exhibit in prize boxes and crates, said it was "truly marvelous"; while the Princess remarked that it was "perfectly wonderful" how these interesting insects could secure and prepare for our use such delicious food.

On Saturday we had the pleasure of seeing Queen Victoria, Prince Leopold and the Princess Beatrice in the royal carriage, with their liveried attendants, and the Prince of Wales, who had previously arrived in his carriage, mounted his horse and led the escort; being the President of the Royal Agricultural Society, on their visit to the show. The prize animals were then passed in review before the royal party, and afterwards they left the grounds, escorted as before by the Prince of Wales.

We have much to learn from the British Bee-Keepers' Association. The system of management for bee and honey shows, as adopted by the Society, is nearly perfect, and we shall study it thoroughly for the purpose of assisting our American Association to mature plans for future management. One admirable point we have gleaned from the Agricultural Society, is that of having each exhibit known by a number, suppressing the name of the exhibitor, so that the judges shall give an unprejudiced opinion, Of course, we have nothing to learn from the British on the culture of the honey bee—justice demands that we say, we are infinitely in advance of English apiarists now. This is candidly acknowledged by their principal apiarists.

Vice President for North Carolina.

Owing to a press of business matters, Capt. F. M. Wooten, of Wilmington, N. C., is unable to serve as Vice President of the North American Bee-Keepers' Association for that State. Mr. R. C. Taylor suggests the name of Mr. F. B. Parker, of Goldsboro, N. C., for appointment. The recommendation is accompanied with the appended graceful letter of acceptance. Having the fullest confidence in Mr. Parker's ability and zeal, he is appointed such Vice President.

THOMAS G. NEWMAN, *Prest.*,
North American Bee-Keepers' Ass'n.

Wilmington, N. C., June 18, 1879.

FRIEND NEWMAN:—I am sorry to say that Capt. F. M. Wooten, of this county, owing to a constant press of other business matters, cannot accept the position of Vice President of the North American Bee-Keepers' Association for the State of North Carolina, and in his place I would suggest friend T. B. Parker, of Goldsboro, N. C. Please find herewith inclosed a note from friend Parker on this subject.

Yours most truly, R. C. TAYLOR.

Goldsboro, N. C., June 16, 1879.

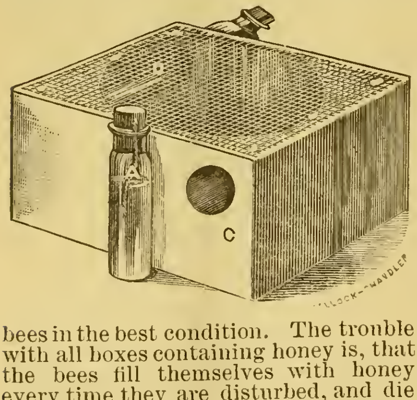
FRIEND TAYLOR—*Dear Sir:*—Yours of the 12th inst. to hand, asking if I will accept the position of a Vice Presidency to the American Bee-Keepers' Association. In reply will say that I know of nothing to prevent me from attending to the duties, in consequence of which I will accept the position. I shall ever remember with pleasure the meeting in Philadelphia. I there had the pleasure of forming the acquaintance of Mr. Newman, with a host of others, that I had been dealing with before and since. I especially remember J. H. Nellis, H. Alley, J. P. Moore, N. N. Betsinger, L. C. Root, A. J. King, T. G. Newman and Mr. Coe. I found all agreeable gentlemen. Bees are doing nothing at all

Respectfully, T. B. PARKER.

Long-Distance Shipping Cage.

We have received from Messrs. C. W. & A. H. K. Blood, of Quincy, Mass., one of their long-distance queen shipping cages from which we have had an engraving made, and present it with this letter. This letter and illustration will more fully answer the question propounded by Mr. Otto Halblieb, on page 368 of this number, and which was in press before the following letter was received:

We have shipped queens in boxes with sponges filled with honey, with honey in small frames, and with sugar candy, and find the latter keeps the bees in the best condition. The trouble with all boxes containing honey is, that the bees fill themselves with honey every time they are disturbed, and die from this cause. This is impossible when they are furnished with candy, as they are obliged to change this solid to a liquid before it can be consumed, which process requires some time.



Many have had failures with candy cages on account of the candy becoming very dry and water not being properly provided. To avoid this, we place in our boxes two vials of water, facing in opposite directions, so that in whatever position the box may be, the bees shall have access to one of them. The stoppers have a slot cut in the side and a piece of cotton twine in the same, which by capillary attraction becomes saturated and enables the bees to obtain the water easily. We have shipped queens to Texas and California in these cages, and they arrived in good condition.

We make the boxes larger than those commonly used, and send more bees. This increases the cost a little, but as most of the queens we send out are imported or valuable, we find it pays, for it is poor policy to economize in the cost of shipping, and thereby lose queens.

Comb Foundation.

We are frequently asked by visitors, and by letters, as to the relative merits of competing articles for use in the apiary, and as nearly every manufacturer lays claim to superior merits for the article of his production, we make it a point, so far as possible, to submit all to a practical test in the AMERICAN BEE JOURNAL apiary. In nothing, perhaps, has more interest been manifested than comb foundation, and no article has been the cause of so much comment *pro* and *con*. So far as our experiments have extended, we must certainly indorse the Dunham foundation for use in the brood-chamber, if immediate and speedy results are desired. In fact, the only serious objection to its use, is the disposition of the bees to crowd upon it in too great numbers, and unless very firmly fastened, they soon break it down from sheer weight of numbers. To obviate this difficulty, we find it safest to place strips, five inches in width and of full length, in our Langstroth frames, to put in colonies ordinarily strong. When colonies are very weak, and we desire to build up rapidly, we place in full sheets. As a trial test of foundation of different makes, we placed eight one-pound sections in a Langstroth case, using one thin flat-bottom starter; also one each from two dealers, made with Root's machine, and three starters of Dunham foundation, leaving two boxes without starters. These were placed in the case without reference to choice of position.

The case was put in the upper story at 9 a. m.; at 3 p. m. the Dunham foundation was worked one-fourth of an inch on each side, the Root foundation was apparently just commenced upon, the thin foundation was about half cut out and abandoned, and the bees had commenced building comb in the boxes unsupplied with foundation. Another trial: On Saturday evening, July 9th, a half sheet of Dunham foundation was placed in a queenless nucleus with one comb, and an average number of bees for one frame. On the following Saturday evening the bees had drawn out the foundation nearly full thickness, and within one and a half inches of the bottom bar, and filled and partly sealed with honey.

Acknowledgments.

Messrs. C. W. & A. H. K. Blood have sent us a frame of foundation, prepared as described in their correspondence, p. 358. The frame is nearly American in size, and the foundation is very evenly and prettily drawn out from top to bottom on both sides by the bees. It shows no sign of sagging, nor distorted cells. Upon close inspection, we observe the queen has utilized nearly every cell by depositing an egg in it.

From Mr. G. P. McDougall, Indianapolis, Ind., we have received a 68-page pamplet, entitled "Secrets of Bee-Keeping, or How to Make Money with the Honey Bee." The book is well written, and filled with matter of general interest to the bee-keeper, especially the beginner. The paper is not so good as should have been used for a text-book, nor is the press-work on our sample copy very creditable. The price is put at 50c. by mail.

We are under obligations to Mr. J. D. Hutchinson, 50 Gordon St., Glasgow, Scotland, for copies of the prize-list of the Caledonian Apiarian and Entomological Society for honey, hives and bees, to be held at Perth, Scotland, July 29th to Aug. 1st, 1879, in connection with the Highland and Agricultural Society's Show. The list is very extensive, embracing everything connected with the apiary, and honey and its uses, and the prizes very liberal.

Messrs. Everett Bros., Toledo, O., have our thanks for the Premium List and Rules and Regulations of the Tri-State Fair, embracing Ohio, Michigan and Indiana, to be held at Toledo, O., Sept. 8-13, 1879.

From Mr. F. C. Smith we have received the Premium List of the North Georgia Stock and Fair Association, to be held at Atlanta, Ga., Oct. 20-26, 1879.

From the Secretary we have received the Premium List, Rules and Regulations of the Grand Exposition of the Agricultural Society of Delaware, to be held at Dover, Del., Sept. 22-27, 1879.

The Premium List for the tenth annual exhibition of the Industrial Association of Southwestern Wisconsin, to be held at Mineral Point, Wis., Sept. 2-5, 1879, has been received.

The above Premium Lists are all quite comprehensive and the premiums offered in the various departments very liberal. The typographical execution is creditable on all of them. We are sorry to observe the importance of the bee-keeping interest does not receive the consideration it deserves. Less horse-racing and more honey would redound more to the prosperity of the country.

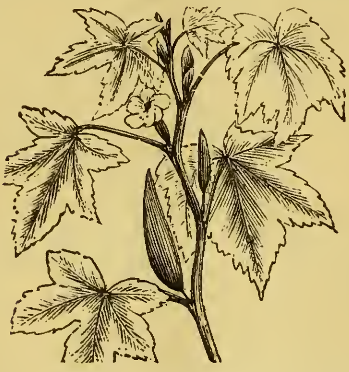
From the White Manufacturing Co., Madison, Ind., we have a sample Palace Bee Hive and a catalogue. This company manufactures bee hives and honey extractors and deals in apiarian supplies generally. The hive sent us is very large in size and elaborate in finish, and we hardly understand how they can be manufactured and sold for $11 each. A critical examination of the hive will be left for the editor, Mr. T. G. Newman, upon his return from Europe.

We have a photograph from Mr. A. E. Wenzel, Callicoon, N. Y., of his "Boss Bee Hive," patented April 17, 1878. The photograph gives three views of the hive: 1st. Summer rig; 2d.

Substantially the patent as issued in full; 3d. Winter rigged. Views Nos. 1 and 2 will be best understood by the description in July number of the JOURNAL, page 307. The photograph will be placed in the JOURNAL album for the inspection of the curious.

Okra—Gumbo.

A correspondent in the North wishes a description of Okra or Gumbo, which is mentioned in Cook's Manual on page 232, as a honey producer. Okra is a vegetable that is slow in finding its way to the garden and the table in the Northern States, while in Southern families it is in very general use. The plant is much like a huge hollyhock, with yellow flowers, and upon these the bees may be found working in great numbers.



The flowers are succeeded by angled pods, six inches or more long, and over an inch thick. These pods, when so tender that they will break, are very mucilaginous and give off, when cooked, a large amount of gummy matter. If they begin to mature, they become woody, filled with hard round seeds, and quite unlike anything edible. Though in the catalogues, the plant is called "Okra or Gumbo," the name Gumbo properly belongs to the dish prepared from the pods, rather than to the plant itself, as the Southern cooks make Gumbo without the use of Okra, but substitute the pith and young leaves of sassafras, one of the native violets and perhaps other plants. The best Gumbo is made with chicken, though veal and other meats are sometimes used, and is merely a stew made thick by the use of an abundance of Okra pods. Gumbo soup is any soup to which sufficient Okra is added to give it the desired thickness. The young and tender pods boiled and dressed with melted butter are liked by many, but they are rather too gummy for those who have not become accustomed to them. A dish made of the Okra pods and tomatoes stewed together is also prepared.

Prospects for the Future.

We are in receipt of numerous letters making inquiries as to the outlook of the honey harvest, prospective prices, etc. The California honey crop will be almost or quite a total failure, and advices from that State indicate but a small supply for the general market, mostly made up from the remainder of last year's surplus. In the New England and Eastern States the total crop will not be more than, if quite an average yield; in New York and Michigan about an average crop; Illinois, Indiana, Ohio, Iowa, Wisconsin, Minnesota, Kansas and Missouri, about 20 per cent. above the average; Kentucky, Tennessee, Arkansas, Texas and other Southern States generally, about 30 to 40 per cent. short. These estimates are based on the average per colony wintered through; and, of course, taking the disastrous losses in winter and spring, it reduces the general yield for the whole country to less than 50 per cent. of that of last season, and taken with the surplus on hand, it still leaves the supply far below an average.

Although we are not of those who generally advise "holding off" for better prices, yet in this instance we would say to those who have nice honey in desirable shape, to "make haste slowly" in throwing their product upon the market. Give the bee-gum and the box-hive men a chance to dispose of their second-rate stuff, as generally it is in poor shape and will not keep to advantage, and they will sell at almost any price to realize; in fact, far below paying prices for the specialist, who is dependent on his honey for an income.

As will be seen on another page, the American honey took the grand premium at the great Bee and Honey Show in England. This will do much towerd removing the prejudice which has existed to a considerable extent in that country against our honey, both comb and extracted, and, of course the taste of England will be more or less contagious and extend to other countries. With the dense population of Europe honey must eventually become a favorite, and now that the American product takes the lead in attractiveness, the outlook abroad is altogether flattering. At home, the great surplus of last season was not altogether a source of regret, although a slight periodical hardship, as it has been the means of familiarizing its use in thousands of families where it would have been many years in being introduced, but for its very low price. In Chicago and other great marts, there are scores of grocers who keep it regularly on sale, where a few years ago it was a rare thing to be seen. This evidences a growing and steady demand for it, and like all progress in civilization and taste it cannot retrograde. When Congress shall have passed a general law against adulterations (which sooner or later will be done), it will force *honest syrups* to compete with honey in the public taste, and force out the vile adulteration commonly known as "strained honey." Then the apiarist can offer his extracted nectar without fear of his honesty being impugned; then will there be a *standard price* for honey as there now is for any other necessary product; then can the apiarist count up his prospective gains almost as certainly as can he who is tilling the soil, or raising cattle, or hogs or sheep; then will the most beautiful of God's fair creation not bloom in vain, and the most industrious of His animal creation not toil without appreciation.

Hints About Honey Exhibits.

President National Bee-Keepers' Association:

I have these suggestions to make in regard to the premiums to be awarded for the best display of honey. Honey differs very much in appearance according to locality, giving those accessible to basswood, white clover, etc., much the advantage over those having none of them; yet the apiarist may try as hard to secure a premium sample as those more favorably located. Now, if we could have a premium for each State, given for its merits and not for its intrinsic value, and would give all a chance besides, it would have a tendency to create a State competition that would not otherwise exist, and do justice to all parties. And if it be not incompatible with the rules of the Association, I would suggest that you notify the Vice President of each State to select specimens of honey to be exhibited before the National Bee-Keepers' Association at its next meeting. I for one will do all in my power to have Missouri represented in both box and extracted honey. If favorable, I will have published throughout the State, as far as I can your decision, giving all a chance to enter as competitors. Hoping you will give this your consideration,

I am yours, etc., P. P. COLLIER,
Vice President for Missouri.
Benton City, Mo., June 16, 1879.

This is a good suggestion, and one already acted upon in the State Honey Shows. If honey exhibits are sent to the National Association it is but just that a diploma be given for each State, and we have no doubt but that the next meeting of the Association will so order it.

Bee-Keeping—Its Magnitude.

We find the following article going the rounds of the press. It gives a comprehensive view of the bee-keeping interest in the United States, and the necessity for congressional legislation for its protection—not in the way of tariff or exclusive monopoly, but to place an honest article in competition with honest competitors. While we would have a law passed making it a misdemeanor to use glucose, grape sugar, or dextrine in extracted honey, but throwing it upon the market as a pure article, we would have the same law apply as well to the "doctored" syrups, oleomargarine, and, in fact, everything sold for consumption. Or, if susceptible of adulteration without deterioration, let it be labeled to that effect, and sold upon its merits. If it does no harm to adulterate an article, it can do no harm to label it; if it does harm, surely it would be but moral honesty to tell the buyer what he was purchasing:

Mr. Robert Thwaite suggests in a communication, that it would be profitable for all farmers to keep a few colonies of honey bees. There is a large quantity of honey sold in Philadelphia, he says, which comes from California and New York, and but very little from Pennsylvania. In 1876 Mr. J. S. Harbison shipped from six apiaries in San Diego county, California, ten car loads of honey, each car containing 20,000 lbs. or 200,000 lbs. in all. The annual income of this gentleman on his honey amounts to $25,000 per annum. A gentleman in New York, in 1874, sold 58,000 lbs. of honey from his own apiaries. It is much easier, says Mr, Thwaite, to produce pasturage (in addition to natural resources) to support 100 colonies, than to provide pasturage for 100 head of sheep, the profit on this being more than double that in sheep. The honey lost in California for want of bees to gather it is of more value than the gold gathered. It is estimated that the value of the honey crop collected annually is worth $8,800,000. The wax is estimated at $6,000,000, or a total of $14,800,000. Of this amount $1,200,000 worth of honey and 700,000 lbs. of wax are exported, and yet, says the writer, the culture is only in its infancy. Two Michigan farmers, both of whom own large tracts of cultivated ground, had informed him that the profits on their bees exceeded that of their farms.

The Senses of Bees.

The senses of bees were the next subject of investigation, and we will give in brief the results which Huber reached: The lenses of the bees' eyes are not adjustable, and though they can see accurately to great distances, they seem blind to objects close by. Bees dart down to the door of their hives with a precision which is generally unerring; but if from any cause they miss the opening, they are obliged to rise in the air in order to take another observation.

If bees hear—which is a doubtful question, the old-fashion "tanging" to the contrary—they certainly hear only what affects their welfare. Their sense of taste is also far from perfect, foul ditch water being often preferred by them to limpid streams or even dew, and ill-smelling plants having quite as much attraction as sweet ones; it is the quantity rather than the quality of their food for which they care. They are also fond of the secretions of the aphides, the milch-cattle of the ants.

Their sense of smell is very keen; the presence of honey they detect even in the most carefully-concealed places. Honey bees often, in scarce seasons, attack the bumble bees on their return from fields laden with honey, and force them to disgorge all they have collected. Its presence in the honey-bag must have been detected by the sense of smell. The seat of this sense is in the mouth; this Huber determined by presenting successively to all parts of the body, on camel's hair pencils, odors especially repugnant to them. When held near the mouth, the bee started back as if annoyed. On one occasion he mixed honey with camphor, which they especially dislike: they managed to separate and remove all the honey, leaving the camphor untouched.

The sense which seems to be most perfect in these little creatures is that of touch and that seems to reside wholly in the antennæ. Greetings, caresses and the communication of intentions are always effected, by one bee toward another, by crossing their antennæ. It must be remembered that no light enters a hive under ordinary circumstances. "The bee," says Huber, "constructs its comb in darkness; it pours its honey into the magazines, feeds its young, judges of their age and necessities, recognizes its queen, all by the aid of its antennæ, which are much less adapted for becoming acquainted with objects than our hands. Therefore, shall we not grant to this sense modifications and perfections unknown to the touch of man?"—*Popular Science Monthly*

The Bee that Saved a Kingdom.

Once upon a time there was a bad king, and the people wished him to make a certain good law. "No," said he, "I will not make that law—it is too good; it will make peace. Here is the law I wish to make. Then all my people will go war." The two documents lay in front of him on the table all written out, and whichever one he signed would be the law of the land. He took up a big quill pen, drew the bad law near him, and dipped the pen in the ink. Just then a bee began to buzz. It was a wise bee.

"Zigu ze ozzer—ze ozzer—ze ozzer!"

The king would not listen; so the wise bee lit on his nose and stung him just a little, still buzzing:

"Zigu ze ozzer—zigu ze ozzer—ze ozzer—ze ozzer—ze ozzer!"

"Open the window," roared the king, "and drive out this bee, or kill him!"

They opened the window. Out flew the bee, and in rushed the wind. It blew very hard. The papers flapped and flew across the table. The bad king was so mad that he stamped his foot, seized one of the papers, and signed it in a rage.

The bee hurried to the garden and whispered to the honeysuckle:

"Zome of your bezt—zome of your bezt!"

"Long live the king! Long live the good King Blunderbuss!"

"O ho!" said the king to himself, when he heard that, "that is the best sound I have heard for many a year."

Wild Bees and the Indians.

A Minnesota writer in an exchange gives the following particulars about the introduction of the honey bee into that State :

Civilized Sioux Indians near St. Paul say that wild bees were here long before the Mississippi was ever disturbed by the boat of a white man. It will be 200 years this coming September since the Falls of St. Anthony were first discovered by the whites, but the traditions of the Indians fix the fact of the presence of the honey bee long before the above date.

The bees were used by the Indians for a purpose, and in such a way that their presence was very likely to fix itself firmly upon the mind. From time immemorial there have been envy, hatred and war between the different tribes of Indians. It was, therefore, necessary to devise some means by which to test the grit of the boy from 10 to 12 years of age who was to be the coming warrior. The test used by these Indians was to cut down a bee tree, and the boys, laying off their buckskin clothing, walked in for a fight. The boy that had nerve enough to stick to the bees until they were all trodden to death, was looked upon as a valuable warrior for the future, and was trained accordingly.

If this custom was really in force, and we have no evidence to the contrary, it fixes the introduction of the honey bee into Minnesota many ages ago.

Beeswax.

The uses for wax are numerous and important. Its property of preserving tissues and preventing mold or mildew was well known to the ancients, who use cerecloth for embalming and wax for encaustic painting, as in the wall pictures of Pompeii wax candles and tapers play an important part in the processions and ceremonies of the Roman Catholic church. Wax is used by manufacturers of glazed, ornamental and wall papers, and on paper collars and cuffs for polishing the surfaces. It is used in varnishes and paints and for the "stuffing" of wood which is to be polished, as pianos, coach work, fine furniture and parquette floors. Electrotypers and plasterers use wax in forming their molds. Wax is an important ingredient in preparations for covering surfaces of polished iron and steel to prevent rust. Combined with tallow, it forms the coating for canvass and cordage to prevent mildew, as in sails, awnings, etc. Artificial flowers consume much wax, and, despite the introduction of paraffine, ceresin and mineral wax, its use appears to be extending. One of the oldest of its applications is in the laundry, and in polishing wood-work.

The product of wax in the United States is stated to be 20,000,000 lbs. annually and increasing—worth in money at least $6,000,000. Of this about $700,000 worth are exported, and about $1,200,000 worth of honey also goes abroad. The total product of honey and wax is worth at present to the United States nearly $15,000.000.

The ingenious production of artificial combs, in a machine recently constructed, that turns out combs with cells rivaling, if not excelling, the natural product, is an important American improvement in apiarian culture, which will add largely to the economy of this industry, yet in its infancy. As the bee is said to consume three-fourths of time in producing comb at the verv time when the honey harvest is at its best, it is evident that the artificial combs must be a great economy in the collection and storing of honey ; but it is not so clear how the stock is to be kept up unless man deceives the bee by using "mineral wax" in the formation of the artificial comb, and this wax is not true wax, but a natural paraffine. *New York Grocer.*

A Cat's Experience with Bees.

The Virginia (Nev.) *Enterprise* gives the following incident :

Charles Kaiser, who has the only hive of bees in town, says that when he first got his colony his old cat's curiosity was much excited in regard to the doings of the little insects, the like of which she had never before seen. At first she watched their comings and goings at a distance. She then flattened herself upon the ground and crept along toward the hive, with tail horizontal and quivering. It was clearly evident that she thought the bees some new kind of game. Finally she took up a position at the entrance to the hive, and when a bee came in or started out, made a dab at it with her paws. This went on for a time without attracting the special attention of the inhabitants of the hive. Presently, however, old Tabby struck and crushed a bee on the edge of the opening to the hive. The smell of the crushed bee alarmed and enraged the whole colony. Bees by the score poured forth and darted into the fur of the astonished cat. Tabby rolled herself in the grass, spitting, sputtering, biting, clawing and squalling as a cat never squalled before. She appeared a mere ball of fur and bees as she rolled and tumbled about. She was at length hauled away from the hive with a garden rake, at the cost of several stings to her rescuer. Even after she had been taken to a distant part of the grounds the bees stuck to Tabby's fur, and about once in two minutes she would utter an unearthly "yowl" and bounce a full yard in the air. On coming down she would try to scratch her ear, when a sting on the back would cause her to turn a succession of back somersaults and give vent to a running fire of squalls. Like the parrot that was left alone with the monkey, old Tabby had a dreadful time. Two or three days after this adventure Tabby was caught by the owner, who took her by the neck and threw her down near the bee-hive. No sooner did she strike the ground than she gave a fearful squall, and at a single bound reached the top of a fence full 6 ft. in height. There she clung for a moment, with a tail as big as a rolling-pin, when with another bound and squall she was out of sight, and did not again put in an appearance for over a week.

Do Bees Make Honey?

Prof. Riley, who asserts that bees do not simply gather, but actually make honey, is met with the following from a correspondent of the *Scientific American:*

Is it not astonishing to find that professors of this day state that bees make honey? A good common stand of bees, having but a short distance to travel, will increase their stock of honey from 1 to 2 lbs. in 12 hours' fair work. What chance is there here for a digestive process? Place 3 lbs. loaf sugar syrup within reach of such a stand at 8 p. m., and it will all be taken up and stored away before sunrise next morning. I once thus expermented: After feeding to about 40 colonies 9 barrels of Cuba honey, upon examination I found no difference between that in the comb cells and that in the barrels, only the former was cleaner from dirt. The honey becoming exhausted, I then fed the bees during the rest of the fall with loaf sugar syrup. Upon examination next spring, I found the comb cells filled solidly with well-grained loaf sugar, precisely like that I had dissolved to feed the bees with. Other cells were partly filled with Cuba honey and partly with ground loaf sugar.

☞ A California paper says that a Los Angeles, Cal., firm has contracted for 300,000 lbs. of honey. Upon receiving the honey in an extracted form, they pour it into a large settling tank of 3,000-lbs. capacity, and this, securely covered, is left exposed to the rays of the sun for a day or so. By this process all impurities are eliminated, rising in a sort of froth to the surface, and the pure honey is drawn off through a cock at the bottom of the tank. It is then put up in neat tin cans containing 2 lbs. each, and securely closed with solder. The firm ships to Liverpool, England.

How Many Eggs a Day.—Mr. Jaffery contributes the following to the *American Cultivator:* According to promise in my last notes that I would set combs to find out how many eggs a queen would lay, I placed empty, clean combs in several hives; others also tried similar experiments. The flow of honey was very light, hence the queens did not do their best. The combs were left 48 hours. From 7 Italian colonies under experiment, I found 3 of them averaged 4,500 eggs, with last year's queens, and 4,100 in the other 4 colonies, with queens 4 months old. In 2 black colonies that were set in the same yard the old queen laid 3,950 in 48 hours, while a younger one that was but 7 weeks old laid 2,700 in 48 hours. I also tried 2 Italians that were about 3 weeks old, finding that they laid 1,950 and 2,100 respectively. One was light colored and the other dark. The dark ones have always done the best for me, although the light ones have been the most docile and pleasant to handle.

☞ The Boston *Cultivator* says: "The most complete bee-hive should be so constructed as to give the apiarist perfect control of all the combs, that they may be easily taken out without disturbing the bees. It should also afford suitable protection against extremes of heat and cold, sudden changes of temperature and the injurious effect of dampness, or in other words, it should be so constructed as to be dry in winter and free in summer from any suffocating heat—what is known as well ventilated. Possessing these qualities, the more simple in construction the better."

Little Johnny on Bees.

Once Billy, wich had been a readin' that poetry about the bee and the ant, and sech things, kep a sayin' it over til everybody got sick hearin' it, so one mornin' wen he come in the parler and burst out with; "How doth the little bizzy bee?" my father said: "William, that inseck has passed a tolibly cumftable nite, and is doin' as well as cude be expected. It is very good of yure master to send you to inquire so often, but it is a newsance all the same, so I'll jest giv you a anser plain enuff to last a week." Wen my father said that, he picked up the fire poker and made like he was goin' to fling it, but Billy improved the shinin' hour by dashin' thru the door.

There was a feller once wich was a newspaper writer, and he was visitin' a friend wich had a hive of bees, and his friend tole him the bees had a queen wich was a big fat bee and didn't have to work for a livin'. So the feller he waited till he got a good chance, nobody around, and he give the hive a spitefle kick and run. And the last that his friend see of that statesman, he was dancin' on top of a distant hil, and looked like he had a hundred arms and legs, and there was a bright glory all around him, wich was the sunshine on them bees!

One time there was a man brot his beehive in the house, cos it was a cole nite and set it fore the fire in the room where he slep. Wen he woke up in the mornin' the bees was all over the flore, and the wols, and the chairs, and the bed, and everywere spred out like butter on bred. And they was into his close, and his boots was on the other side of the room, and bimeby some wich was inside the bed then begin to explore his two legs. So he jest shet up his eyes, and folded his fingers across his stomick. and said: "It's too late for action, and my feel is too deep for utter." But pretty soon the other folks in the house was woke by sech dreffle noises, that one yelled "Fier!" and a other said, "Wich way did he run?" and a other said, "If this house is a quartz mil it ot to ben put up stronger to stand the stampin' !" But it was only that bee feller takin' action and utterin' his feel at the same time.

Last summer our dog Towser, that's the one died, was lyin' in the sun, tryin' to git some sleep, but the flees was that bad he cudent, cos he had to cetch 'em ; but bimeby a bee lit on his head and wocked about like the dog was hisn. Towser held up his hed real stil, and wen the bee was goin' out at the end of his nose he wank his eye at me, like sayin' : "You see wot this duffer is a doin' ; he thinks Ime a lily of the vally wich isn't open yet. Just wait til I blossom and you'll see some good fun."

And shure a nuff Towser he opened his mowth very slo, so as not to friten the bee, and the bee went inside Towser's mowth. Then Towser shut his eyes dreamy, and his mowth too, and begin to make a peacefle smile, wen the bee up and stung him, and you never seen a lily of the vally make sech a circus performance in all yure life !—*Selected.*

Work among Bees—Effect of Stings.

At a recent meeting of bee-keepers at Lansing, Mich., Professor Cook said in answer to a query : "I believe the oftener colonies are looked through in summer the better. The bees will get used to it, and will go right on gathering and storing ; I have seen the queen keep on laying eggs when I had the combs out. In order not to disturb their operations one must be quiet. Working with the bees will overcome nervousness. When I am feeling nervous and go out to work among the bees, I soon get entirely over it. This matter of fear can be got over by any one. Getting stung gets one used to the poison, so he will not be injured by it. A bee-sting does not swell on me now, and one of the students at the college told me that he was stung yesterday without knowing it, until he saw the swelling some time afterward ; yet at first a bee-sting was painful to him. I think this is on the principle of inoculation. Mr. Langstroth said that at first his eyes would swell if he was stung on any part of the body, but he got over this. Mr. Davis does not know when bees sting him, though it sometimes swells on him. Thickness of skin may make some difference."

An Extraordinary Beehive.

At the farm of Mr. John Parle, Mill O'Rags, County Wexford, Ireland, there have just been taken from a hive of about eleven years' standing, 154 pounds of honey, besides a large quantity of wax in the comb. At one side of the water-mill, and near the roof, there are several holes which had been left for scaffolding, and were generally occupied by pigeons. In one of these holes a swarm of bees entered and took up their abode in 1864. A box was constructed and placed in front of the hole, and an aperture for the entrance and exit of the bees. Here they continued to work undisturbed until 1865, when they swarmed, and the new swarm took up their abode in the trunk of a large sycamore, felled some time, where they have since toiled year after year, the heart of the tree gradually rotting away until almost hollow.

They pushed their way from end to end of the trunk, about nine feet long, until they amassed the extraordinary amount above mentioned. A large number of the combs —the first year's produce—were unfortunately almost empty, and a few quite black and half filled, which are only suitable for making mead. The course adopted to extract was unique, though it may be considered cruel. The usual means adopted is to smother the bees with fumes of brimstone, but in this instance the hive was so situated that it was impossible to kill them, so the greater portion of them were dislodged, and the tree split open with hatchets; and to guard against stings, the combs had to be actually shoveled into keelers or shallow tubs.—*Ex.*

THE HONEY HARVEST.—The statements to the effect that bees cease to store a surplus when taken to warm climates, have been going the rounds of the newspapers. It is well known that Southern California, with its mild, even sub-tropical climate, gives wonderful returns to the skillful apiarists. Cuba, situated wholly within the torrid zone, sends considerable honey to the United States every year. Correspondence, which the writer has had with bee-keepers, residing in the torrid zone, shows that the newspaper statements referred to are incorrect; besides, the accounts of all travelers agree, that honey is raised in considerable quantity in most tropical lands, even where the system of bee-management is very rude. The honey harvest in tropical climates is very likely to be extended over a greater portion of time than it is in temperate regions, yet it does not follow from this that the bees store more honey ; for the yield at any one time is not as likely to be as large a one as that of a more temperate climate, and hence there is more probability that the honey will be used in brood-rearing about as fast as gathered, so that, unless an improved system of bee-culture be followed and the honey removed often during the gathering season, little surplus will be obtained.—*Exchange.*

☞ The Seventh Annual Exhibition of the "Inter-State Industrial Exposition of Chicago" will open Sept. 3d and close Oct. 18, 1879. Four hundred thousand persons attended this exhibition, on an average each year, since the Exposition was opened to the public.

☞ Always have the cheerful rays of the morning sun fall upon your hives ; but contrive to throw a shade upon their front for a few hours in the middle of the day, when the weather is very hot. Such a shade will be grateful to your bees.—*Nutt.*

The above is most excellent and timely advice, and should be well followed.

Foreign Notes.

Translated from *L'Apiculteur Alsacien-Lorrain*,
by Frank Benton.

Comb Foundation—No. 4.

Liepvre, September, 1878.

MY DEAR FRIEND:—I read in *L'Apiculteur.* of Paris, January, 1878: "They (sheets of comb foundation) are not easily fastened in the frames, heat bends them, they get broken very easily, and finally, the bees build them out less willingly than they use a foundation of natural comb." This sounds like overwhelming testimony, but please accept it only conditionally. In fact, let us take up the case and discuss it item by item, who knows but that our conclusion may be directly opposed to that of M. Pellenc, the author of these severe lines?

1. *It is difficult to fasten them in the frames.* Schultz advises cutting a board just large enough to fill the interior of the frame, and yet having play enough to prevent its rubbing when the frame is placed over it. Two parallel sides of this board are furnished with strips so nailed on that when the side pieces of the frames rest on them the surface of the board will come nearly to the middle of the frame. You then place a sheet of comb foundation on the apparatus thus arranged, and pour liquid wax in the angle which the sheet forms with the top bar all along, and also with the upper third of each side piece; after which you turn the frame over and proceed in the same manner with the other side. The lower two-thirds of the sheet are left free, and their edges should be from 7 to 10 millimetres (about ¼ to 2-5 of an inch) from the side bars, in order to permit the expansion of the wax in the heat of the hive.

Is this operation simple enough? Well, here is another still more simple. I think it was devised by M. Duck, of Mulhouse:

You make with a saw a cut in your frame, dividing the top bar from one side to the other into two equal pieces, letting the division extend the length of the upper third of the side bars; you cut the sheet of comb foundation in the shape of a trapezoid, leaving the upper edge the size of the frame, wood included, and the lower edge the size of the inside of the frame, less 14 to 20 millimetres (about ½ to 4-5 of an inch) for the expansion of the sheet; you then slide this foundation from the upper side into the groove which the saw has left, and make the whole solid by means of a few drops of melted wax. Sheets of foundation and frames can be prepared beforehand, and this done, the fastening will not take two minutes a comb.

Just here an objection to this latter method might be brought up. It may happen that one will be obliged to remove one of these combs, finished or not, and in this case to do considerable scraping, in order to remove the wax from the groove and leave this as large as at first. It is true that this occurs rarely, and it is likewise true that instead of stopping to scrape off the wax, there is nothing to hinder the use of the saw in removing it.

You see, my dear friend, that all this is not so very difficult, and that, in fact, in order to find the least difficulty in it one must be very exacting himself.

I will say nothing to you here concerning the use of comb foundation in common hives. Theoretically the thing is possible, but not practically. I will show you this later.

2. *The heat bends them.* This is certainly the greatest objection—the one which is true in a certain measure, at least with the previously described methods of using it.

The lower two-thirds being free from the side-bars expand, and rarely in the same plane. Sometimes the foundation makes a curve about a horizontal axis and the bottom of the sheet goes outside of the frame; sometimes this deviation is made in a lateral direction, about a vertical axis, and the edges of the loose sheet are left more or less outside of the center of the top-bars; at other times the curvature, simple or compound, takes place in the middle of the foundation, giving the surface the appearance of hillocks and valleys, and the cross-section a resemblance to a series of S's placed end to end. In all such cases, as the bees build their cells of nearly uniform depth, the combs adhere one to another, and contrary to our desire, we find instead of movable combs such as are quite immovable.

How is one to avoid these inconveniences? Some with a thin piece of metal, previously heated, make an opening from the top downward, about 10 centimetres (about 4 inches) in length; others endeavor to hold the sheets of foundation in place by means of short pins put here and there into the side-bars of the frame; still others make awl-holes—two near together—in the side-bars and insert *prohpudor*—hair-pins,—the two points of which reaching within the frame hold in place the edges of the comb foundation.

Let me say to the first of these that the opening they make will cause the great inequalities to disappear, but will not avoid the small ones; moreover, sheets that have been cut in this manner break easily, or if they hold together each twists each its own way. Into the ears of the second class we slip these words; You do not avoid the valleys and hillocks in the middle of the comb, and hence for a half-success you lose a vast amount of time, for when the extractor is used the pins get out into the honey. One might also add that these pins interfere very greatly with the regularity of the cells.

Regarding the third class we might say.—but pshaw! What is the use of ones putting himself to all the trouble they do, and yet not succeed any better than do those of the second class, and only by the consumption of a vast number of hair-pains! Very likely the discoverer of this method is a very good and worthy apiculturist in theory, or perhaps he is a gallant—romantic, who, some fine day had said to himself: "The combs bulge out because the bees do not fix them quickly enough; but bees love sweet odors, then if I should place there—where I wish to attract them most quickly—these curved bits of metal taken from the perfumed tresses of my idol!" O poet, leave me!

Well, here you have what I, through experience, have found the best for all circumstances. DR. REISSER.

☞ In correction of article in July number of JOURNAL entitled "American Honey in England," we have received the following note from Mr. W. M. Hoge:

London, June 25, 1879.

The article sent me regarding the introduction of honey into Windsor Castle, and which you intend shall come out in the July number of the AMERICAN BEE JOURNAL, errs in this, that it was Mr. Jackson, member of the British Bee-Keepers' Convention, who wanted the 3 crates of honey for examination, and not the British government. Please alter that part and oblige.

Timorese Honey Hunters.

I once saw the natives take a bee's nest, and a very interesting sight it was. In the valley where I used to collect insects I one day saw three or four Timorese men and boys under a high tree, and looking up saw, on a very lofty, horizontal branch, three large bee-combs. The tree was straight and smooth-barked, and without a branch, till at 70 or 80 feet from the ground it gave out the limb which the bees had chosen for their home. As the men were evidently looking after the bees, I waited to watch their operations. One of them first produced a long piece of wood, apparently the stem of a small tree or creeper, which he had brought with him, and began splitting it through in several directions, which showed that it was very tough and stringy.

He then wrapped it in palm-leaves, which were secured by twisting a slender creeper around them. He then fastened his cloth lightly around his loins, and, producing another cloth, wrapped it around his head, neck and body and tied it firmly round his neck, leaving his face, arms and legs completely bare. Slung to his girdle he carried a long, thin coil of cord; and while he had been making preparations, one of his companions had cut a strong creeper or bush rose, 8 or 10 yards long, to one end of which the wood torch was fastened and lighted at the bottom, emitting a steady stream of smoke. Just above the torch, a chopping knife was fastened by a short cord.

The bee-hunter now took hold of the brush-rope just above the torch and passed the other end round the trunk of the tree, holding one end in each hand. Jerking it up the tree a little above his head, he set his foot against the trunk, and leaning back, began walking up it. It was wonderful to see the skill with which he took advantage of the slightest irregularities of the bark or obliquity of the stem to aid his ascent, jerking the stiff creeper a few feet higher when he had found a firm hold for his bare feet. It almost made me giddy to look at him as he rapidly got up—30, 40, 50 feet above the ground,—and I kept wondering how he could possibly mount the next few feet of straight, smooth trunk. Still, however, he kept on with much coolness and apparent certainty, as if he were going up a ladder, till he got within 10 or 15 feet of the bees. Then he stopped a moment and took care to swing the torch—which hung just at his feet—a little toward these dangerous insects, so as to send up the stream of smoke between him and them. Still going on, in a minute more he brought himself under the limb, and, in a manner quite unintelligible to me, seeing that both his hands were occupied in supporting himself by the creeper, managed to get upon it.

By this time the bees began to be alarmed, and formed a dense buzzing swarm just over him; but he brought the torch up closer to him, and coolly brushed away those that settled on his arms and legs. Then stretching himself along the limb, he crept toward the nearest comb and swung the torch just under. The moment the smoke touched it, its color changed in a most curious manner from black to white, the myriads of bees that had covered it flying off and forming a dense cloud above and around. The man then lay at full length along the limb and brushed off the remaining bees with his hand, and then, drawing his knife, cut off the comb, at one slice, close to the tree, and attaching the thin cord to it, let it down to his companions below. He was all this time enveloped in a cloud of angry bees, and how he bore their stings so coolly and went on with his work at that height so deliberately, was more than I could understand. The bees were evidently not stupified by the smoke or driven far away by it, and it was impossible that the small stream from the torch could protect his whole body when at work. There were three other combs on the same tree, and all were successfully taken, and furnished the whole party with a delicious feast of honey and young bees, as well as a valuable lot of wax.

After two of the combs had been let down, the bees became rather numerous below, flying about wildly and stinging viciously. Several got about me and I was soon stung, and had to run away, beating them off with my net and capturing them for specimens. Several of them followed me for at least half a mile, being in my hair and persecuting me most pertinaciously, so that I was more astonished than ever at the immunity of the natives. I am inclined to think that slow and deliberate motion and no attempt to escape are perhaps the best safeguards. A bee sitting on a passive native probably behaves as it would on a tree or inanimate substance, which it does not attempt to sting. Still they must often suffer, but they are used to it.—*Exchange.*

☞ Lately, on a farm in Boonsville, O., a congress of bees assembled, thirty swarms having settled on one apple tree. —*Exchange.*

Correspondence.

For the American Bee Journal.

Apiary Work for August.

G. M. DOOLITTLE.

If possible, we want our honey room in the warmest part of the building occupied, so as to evaporate the honey that is in the few unsealed cells around the edges of the boxes next to the wood, so that when we come to glass it or get it ready for market the honey will not run out and soil the combs or boxes. To this end we painted our shop a dark color, and located our honey room in the southwest corner so that the rays of the afternoon sun would make it very warm. When we get a ton or so of honey in it, the temperature stands at nearly 90° day and night. as the honey holds the heat generated during the day through the night. By leaving it thus for a month we have our honey so we can tip it over just as we wish without leakage, and if after it gets to market it is stood in a damp cool room, it will be some time before it will take on moisture enough to affect the looks of the comb to any extent.

We are often asked by correspondents what is the cause of their honey being transparent and oozing out of the cells. The cause is dampness. While in New York city in 1877, I saw honey that had been kept in a damp, underground room so long that the sealing of the cells was bursted and the honey had soured so it smelled very badly and was leaking fearfully. While speaking to the parties about it, they said they believed a cellar the best place to keep honey, but it needed little argument to convince them that they were wrong. Of course, this high temperature will cause the moths to hatch soon, but I told you last month how to head them off.

In this locality the crop of white honey will all be off by the middle of this month, and then we are ready to go to glassing and crating the first off. Have your crate by your side and your glass near you. First get the propolis out of the corners of the box, if there is any where the glass is to come ; then bend up the little tins put in to hold the glass, drop in your glass, and bend down the tins. Now you can scratch off the propolis on the edges of the box without getting it on the honey. Scrape off clean so the box will look nice and tidy, and set in the crate. In crating honey it is always proper to put the best side of the honey out, the same as wool is done up. We once knew a man to do up his wool with the dark or outside ends out, and he could hardly sell it at any price. Why? Not because the wool was not just as good, but because it did not look so well. Just so with a crate of honey. Market men want the best side out, but don't mistake and fill up the center of the crate with dark honey. Grade your honey as given last month, and then put the best side of each lot out, but let your white honey be all No. 1 white.

When the crate is full put on the cover with bright round-headed screws. This gives the crate a nice appearance, does not tend to break the honey by driving nails, and the cost is but a trifle. When crated sandpaper off the sharp corners and top of the crate, and pack nicely away till ready to ship to market.

We have had much trouble in getting glass cut accurate enough to suit me, as they do not expect to cut very close at the factories, and if a glass is a little large it springs the box from the honey and sets it to leaking. For the past few years we have bought our glass cut 6x30 in. and recut it the 5-inch way ourselves. We cut the same as in a miter box; that is, have a box fixed with regulating screws, so that you can cut the glass just exactly 5 in. every time. Have your cutting stick fastened to the box so the glass will go under it, shove up the screws and cut; leave a drop of 2 in. under, and touch the glass so as to break off where cut and drop down ; shove up and cut again, breaking off as before. Thus you can cut very fast and be sure every glass is right.

Sell your honey, if possible, rather than ship on commission, for the returns rendered by the commission men are not always satisfactory. Always ship your honey in warm weather (the first half of September), if possible, as it will go much more safely than in cold weather. If you can sell your honey at home do so, but the most of us cannot so dispose of a large quantity. If we prefer to have our buckwheat and fall honey stored in boxes, we leave them on the hive, otherwise it is best to take them off, for the bees daub them with propolis badly at this season of the year. A good way is to take off the boxes and put in frames in place of the side boxes, having them filled to store away for feeding purposes, or get your starters for the bees for next season built now. Bees will build comb very fast in the body of the hive during a good buckwheat yield.

Look after your colonies and see that none are queenless, and if through with your nuclei unite them so as to make good colonies. We never could have much success rearing queens and introducing after the yield of buckwheat honey was over, although it is advised by some of our best apiarists. We would rather raise and introduce five queens during July than one in September. Keep things looking tidy and nice about your shop and bee yard, and be ready next month to fix your bees for winter.

Borodino, N. Y.

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For the American Bee Journal.

Singular Experience in Swarming.

A. A. HARRISON.

I wintered 68 out of 70 colonies, and have all swarmed but a few. The prospect for a fair crop of honey is discouraging, and prices very low. I now have 93 colonies and have taken off only about 300 lbs., and basswood is in its prime. I have had terrible trouble with my swarms not staying in their new hives; in fact, during the height of the swarming season I did not think of hiving a swarm and have them go nicely to work. In the first part of the season they would come out in from 1 to 3 days and cluster nicely; I would rehive them on a frame of brood and eggs; well, in working in this way and clipping the queen's wings, and sometimes carrying into my wintering house and keeping 3 days, I managed to get most of them to stay with me. Some would come out after being in the hive 8 or 10 days, and had built comb and had it nearly full of eggs. But as the season advanced every new swarm would leave their hive, and the most of them go to the woods, in spite of water, dirt and a double-barrelled shot-gun, which I always have in readiness, but do not use unless it is the last resort.

I tried giving brood at the time of hiving, and will say I could see no difference, whether I gave them brood and eggs or not. One day I hived 3 on a frame of brood and eggs and 2 on combs with some honey, which was made last season. The 3 that I gave a frame of brood came out of the hive next day; 2 went directly to the woods, and the third might as well have done so, as there were 6 of us throwing dirt and water, and myself keeping up a steady fire with the gun. We finally induced them to scatter and enter 3 different hives. These same hives caught the epidemic and acted very bad indeed; some of them had been hived 10 days. I got so overheated that I was nearly blind. The only remedy I could see was to stop all swarming; which I undertook at once, changing places with colonies, putting those that had swarmed in the place of strong ones that had not swarmed; cut out queen cells to prevent second swarms, etc. I had one swarm 7 times after clipping queen's wings; then I caged her, stopping the cage with old comb.

Some will think I did not shade them. It made no difference. Some say Italians wont do that. I know they did, and hybirds and blacks, too, in new pine Langstroth hives. I forgot to say that the 2 swarms I hived on old combs with some honey, went right to work and gave me no trouble. But these hives had bees die in them last winter and had just been brought 3 miles for me to fill with bees, and had been but a few hours in my barn, where I stored my hives. and, as many store-keepers do, empty refined oil barrels. These barrels were, I think, the cause of all my trouble. I wrote our very able and gentlemanly friend, W. J. Davis, of Youngsville, Warren Co., Pa., who wrote me at once, "Expose your empty hives to the influence of the weather and shade well." No sooner did I read his kind advice than I practiced it. Frames, honey boards and all parts of these hives were here and there over the ground. As luck would have it, I had no new swarms off for some 3 days, and I heartily wished I would never have any more new swarms. But as my hives and fixtures were getting well burnt by the sun and washed by the rain, I thought I would like to have just one more swarm to see how they would act. Well, I had my wish, and I have had no trouble since; but don't use a single thing about my hives that has not been well purified by the sun and rain. I have tried strong salt water with oil of anise, but it is of no account. I would like to have some light in regard to refined oil being offensive to bees.

McLane, Pa., July 14, 1879.

[Almost all kinds of oils are offensive to bees, and if the hives or anything pertaining to them had absorbed the smell of kerosene or any rancid oil, it would be apt to create an uneasiness or repugnance on the part of the bees to their new home. We cannot be too careful in preparing nice, clean, acceptable homes for our bees, and making their surroundings as comfortable as possible.—ED.]

For the American Bee Journal.

Emerson Binder, Honey, Etc.

JAMES HEDDON.

I have all my JOURNALS bound from the beginning up to 1878; 1878–9 are in the Emerson binder. Henceforth, I shall use this method of keeping my papers together, and the following are my reasons for changing: With the binder all our papers are in order at all times, up to the very last number. They are much cheaper than regular binding. Most of all, when we have our JOURNALS regularly bound, we miss our advertising pages (as no one can bear to put them with a book), and with the Emerson we retain them, and I always read all the advertising pages as much as any other page in the JOURNAL and as often wish to refer to it in some back number. If there is anything new offered I wish to know it, try it, and keep up with the times.

The basswood crop is now over, and though there never was such a bloom known here before, the extremely hot and moist atmosphere rushed the blossoms along so fast that we have had but 7 days of gathering from it. Clover was a fair crop, so we shall have nearly an average yield of early or bright honey.

This has been a prolific year for swarms, but we have succeeded pretty well in holding ours back. We have now about 430 colonies in two apiaries, and that is more than 230 too many.

Dowagiac, Mich., July 16, 1879.

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Bees in the Shenandoah Valley.

The following correspondence between Messrs. Washburn, of Shiocton, Wis., and Jordan, of Jordan's Springs, Va., fully explains itself. We append an extract from the *Southern Planter and Farmer* which is pertinent to the subject:

MR. E. C. JORDAN, Stephenson's Depot, Va.:—4 have been favored, by Mr. T. G. Newman, of the AMERICAN BEE JOURNAL, with your address, and take the liberty of writing to you for information: 1. Is the Shenandoah Valley a good place for bee-keeping? 2. Are there plenty of honey plants? 3. Is the quality of honey good? 4. Is a mountain location preferable to one in the valley? 5. Can bees be safely wintered on summer stands without protection? 6. What is the general market price of honey? 7. Is the demand good? 8. What are the shipping facilities? 9. Are there many persons engaged in the business? 10. About what time does the honey season begin and how long does it last? 11. Can bees be bought there in the old box hive? 12. If so, at about what price can they be had?

F. H. WASHBURN.

Stephenson's Depot, Va., May 22, 1879.

1. Yes. No better honey on earth is made than here. 2. Yes. Fruit blossoms, clovers, buckwheat, blackthistle and hundreds of other things. 3. Yes. None better. 4. No. Not by any means. 5. Yes. There is not the least doubt of this. 6. No regular or fixed prices. Hundreds of persons around Winchester and all other places in the valley, who do not make bee-keeping a specialty, take much honey to market and sell it for almost any price. Last season it sold in Winchester as low as 8 to 10c. My honey has a great reputation and I sold it for 25, 20 and 15c.; I have peculiar advantages. 7. Yes. Much is shipped to the large cities. 8. Good expresses go in all directions. 9. Yes. But very few know anything about bees or bee-keeping; many are tired of them. 10. In April, and lasts sometimes till late in November, but this is not generally the case. 11. Yes. Hundreds of them. 12. From $2 to $3. Flimsy pretexts for Langstroth hives sell for from $3 to $6; $7 or $8 when long credits are given.

E. C. JORDAN.

We clip the following notice of the excursion to Washington City a few weeks since, from the Staunton *Vindicator*. On returning a number of the excursionists made a pleasant trip to Jordan's White Sulphur Springs, of which the *Vindicator* says:

"A ride of a mile and a half from Stephenson's, in one of Mr. Jordan's comfortable omnibuses, on an excellent road, brings the visitor to one of the most pleasant and quiet summer retreats in the mountain, long famed for the efficiency of its waters, the excellence of its bill of fare, and the courtesy of its proprietor.

"There is an 'annex' to this establishment of which no other watering place in the State can boast. This is the Bee Cottage Apiary, of which the Spring's proprietor, Mr. E. C. Jordan, is the presiding genius. He seems to be as much at home among his hundred bee hives and million bees, as his cook in his kitchen. The yield is several thousand pounds a year, and after supply-the hotel table with an abundance of the amber sweet, a large quantity finds a ready market in the neighboring cities. Taking the honey is an interesting process, aud is executed in a judicious manner by the bee robbers who, protected by wire hats and long cloth capes, pass among the hives, rapidly lifting the box covers of the smaller glass cases, several being under one cover, when from the weight and appearance the full cases are readily selected and set aside, and the remaining ones left to the further attention of the little 'manufacturers.' In a short time several hundred pounds of the sweetest, richest and whitest honey was transferred from the hive to the adjacent store-room. The outraged bees, meanwhile, making frantic but harmless attacks upon their mailed despoilers, or crawling despondingly over the wreck of their wealth, were driven off by smoke injected from a hand bellows, and, as in remembrance of the 'spilt milk' proverb, returned to their labors. 'How doth the little busy bee?'"

Read before Mich. Agri'l Col. Nat. His. So'y, June 20.

Honey Dow on the Tamarack.

PROF. A. J. COOK.

During the last week of May, 1879, the American larch or tamarack, standing near the house occupied by Prof. Beal, was discovered to be swarming with bees. Upon closer inspection the needle-shaped leaves were discovered to be thickly dotted with drops of thick viscid nectar. Many of these drops were sufficiently large to enable one to test the quality of their saccharine element. The sweet was very pleasant, much like that of syrup made from granulated sugar. The drops were clear, colorless and not unlike dew drops in their appearance.

I closely examined the twigs for plant lice, but looked in vain. I only examined the lower limbs which could be observed from the ground.

Two weeks after I received larch twigs from A. A. Winslow, New Holstein, Wis., with a letter stating that the tree from which the twigs were taken was full of large drops of beautiful honey, which the bees were very rapidly storing in the honey boxes. Upon examining these twigs I found them well sprinkled with grains of sugar. The sugar was very white and tasted very much like our best granulated sugar. Mr. Winslow also inclosed leaves of deciduous trees which were under the tamarack boughs. These were coated with sugar, and appeared as if they had been dipped into a concentrated syrup of coffee sugar, and then allowed to dry.

Here, then, it seemed that we had a veritable case of honey dew, not from insect secretion, but an exudation from the leaves. For the past four weeks I have repeatedly examined the twigs of the larch, each time to find the drops of nectar, but each time failed to find any lice, until early the present week when I found even on the lower twigs the tamarack louse, Lachnus caricifex Fitch. But I had found the nectar before the lice, and when there were only hundreds of lice, there were millions of nectar drops. The lice too were of the genus Lachnus, with short imperforate nectaries. How improbable then, that the nectar owed its origin to the lice. Yet the presence of the lice so clouded the evidence that I did not feel satisfied. I examined the epidermis of the leaves taken from just below a drop of nectar, with a high power microscope, but could find no pore or opening from which the sweet might have exuded. I then examined the clover leaves beneath the tree and found them thickly dotted with the same viscous drops of nectar, which the ants were rapidly sipping up, showing that the drops must have fallen recently. Yet the consistency of the nectar would have prevented it from falling off the leaves. I washed all the leaves of a twig by use of a small camel's hair brush free of the nectar. This twig contained lice, and was carried to my study, Soon the leaves near the lice were well sprinkled with the nectar. I next suspended a twig, with several lice upon it, above a paper and collected upon the surface of the latter several drops of the sweet. I then pressed some of the lice when there oozed out, not of the nectaries, the place where the sweet fluid is seen to exude from lice of the genus Aphis, but out of the vent a substance which was clear, viscid; yes, and sweet, for I tasted of it. Why not as well take it direct from the lice as to receive it at second hand through the kindly office of the bees? I next looked with a good lens at a group of lice for some time, when I saw a drop of nectar shoot out for some distance and fall to the ground.

This sweet, then, is certainly a secretion or excretion from the American larch louse. This louse is about one-eight of an inch long; is brown, with a whitish dorsal line, and a band of the same color across the abdomen; between each segment, on each side of the white line, are three rows of black dots. The under surface of the body is light yellow speckled with white. The feet and antennæ are of the same color, with more or less of black. The rudimentary nectaries are black. The beak is long and pointed; the legs long, and few lice make better use of their legs. In a few minutes a louse will pass over as many feet, so that the failure to find one on a twig is no sign that one might not have been there within a short time.

These lice are exceptionally civilized, as they seem to preserve the family relation. About each whirl of leaves may be seen the mother with her little family, of usually four, each busily employed working its own little force pump. Like all plant lice these little ones are fatherless at this season, and surely the mother louse is to be congratulated in that she has the ability to keep the family together. Soon each of the offspring marches forth to begin housekeeping for itself, becomes a squatter, and soon rejoices in its own little family.

Upon dissection I found each ovoviviparous louse to contain four or five yet unborn lice. The eyes of these embryonic lice are plainly visible, though the lice are very small and only partially developed.

We see, then, that our students of economic botany will have to add to the products of the American larch. Now, it will be first-class gum and the raw material for excellent honey, the Lachnus caricifex being the manufacturer. This little louse, too, on the principle of "handsome is that handsome does," must be viewed with increased admiration.

Most writers on this subject, from Virgil even down to the many writers in our present bee-journals, hold that honey dew arises not only from insects, but is a secretion or exudation from the leaves of various trees, like the oak, sycamore, etc. Many claim to have seen the nectar when even the most careful scrutiny could detect no insects, from which it might have arisen. Boussingault, an able French scientist, even gives us an analysis of the nectar from the leaves. Some writers of the South speak of a profusion of this exudation on grass and shrubs, so that people riding on horseback through the tall vegetation would become so besmeared with the nectar, that both horse and rider would have to be thoroughly washed. The exceeding quantity is often commented upon. People speak of removing honey boxes till wearied out by the labor. On the dry plains of the West, the Indians were wont to scrape off this nectar, and by boiling secured an excellent sugar, at least I find such records.

The theories as to the origin of this honey dew are varied and laughable. Old writers thought it the tears of the gods; others held that the sweets of the flowers evaporated and afterwards condensed upon the plants. This theory prevails among some people even in these days of scientific research. Boussingault says honey dew proper is a secretion from the leaves.

In the face of so many witnesses, it is not well to loudly question the fact of honey dew other than that from insects, though Mr. Quinby and the great Dzierzon thought it might be doubtful if it ever had any other source. I acknowledge to some skepticism myself. Yet while once riding on horseback on the river road, a few miles below Sacramento in California, I broke a willow twig, to brush the flies from my horse, which I found covered with thick nectar. There were no insects on the twig nor any trees with branches overhanging the shrubs. I then thought, and have since, that it was a conclusive case of honey dew from leaf secretion. Yet a similar experience with a similar conclusion might come from breaking a tamarack twig, and as we have seen, it would be very erroneous. These lice are quick and active, and might, in fact do, leave their excreta and pass on. Again, many insects, and these same tamarack lice are examples, so mimic the stem on which they rest, that only the skilled observer would detect them, unless he was more than ordinarily careful.

It is stated by almost all writers on this subject, that sultry weather is favorable to the production of honey dew; some authors say dry, hot weather. This is as we should expect, if the nectar comes wholly from lice. It seems to me that there are enough grounds for doubt, so that we may all be on the watch. I should be very glad to see a case of undisputed leaf secretion of nectar.

For the American Bee Journal.

Honey Prospects in Virginia.

J. W. PORTER.

The season here is a most fruitful one, and nearly all the fruits common to our zone are abundant. Blooms of all kinds from the Indus tree or red bud and peach trees down to this day when the chestnut forests are throwing out their pelicles, have been abundant, but honey has been secreted but moderately thus far. The locust trees were one mass of bloom and the liriodendron bloomed freely.

Large quantities of honey are consumed in rearing young bees. Can any one of our older apiarists tell how many pounds it takes to rear a square foot of brood, or say 7,500 bees. We ought to have light here, for it is an important question, and may be made to affect the profits of our apiaries. What is the use of wasting energy in producing bees that are not needed? May we not in a measure control and check this energy as we so often stimulate it? Many doubtless are situated as I am, and do not desire to increase their colonies, and having brought them up to full working power in numbers, can we not check the enormous reproduction when desirable?

Inquiry was made in a back volume of the JOURNAL how to get rid of pollen often deposited redundantly. I have myself wanted to know, If such are saved and spread just a little in the brood chamber, they are filled and capped, and would seem to be just the thing for winter stores. When seasons are bad, if the cost of a million bees not wanted were saved in honey, it would be well for us. The question of over-stocking has, I think, not been sufficiently discussed since Mr. Hazen stopped writing.

I have 75 colonies, and very many of them fill a 2-story, 10-frame Langstroth hive. They have been largely kept from swarming by giving room, and right here it will be well to say that one of the advantages of tiering up, lies in the added room for a larger force of workers.

I use the wide frame and 6 sections and hanging separators on, say half my hives, and never fail to get bees to work in the sections by lifting up some of the lower combs.

Having used straw mats, oil cloth and oiled sheeting, and wood mats I find nothing so good as common floor matting—rush matting. Cut it just the size and have it stitched on the sewing machine or bound on the two edges to prevent raveling, and it will be greatly liked. Bees do not cut it and gum it up like cloth, at least, this is my experience for a few weeks.

Charlottesville, Va., June 16, 1879.

For the American Bee Journal.

Experience with Large Hives, Etc.

J. H. M'CALL.

I am in receipt of the May and June numbers of the BEE JOURNAL, and think it invaluable to the bee-raiser; am well pleased with it. I notice an article in your June number from John Rooker, giving his experince with large hives. The suggestions and experience is so near that of my own, that I give my experience on the same line to those who are interested in the best hive, that they may think it over.

I use what we call here the "State-Rights" hive. The side-pieces are 22x30 in., 1¼ thick, with 10 in. bench, viz: 10 in. for brood and 10 for honey frames. There is at the bottom of brood chamber a slide plank, which fits in a groove loosely, and can be tightened or loosened at will; it can be drawn out and the droppings cleaned away as often as is necessary. The brood chamber has no frames; sticks are fastened in it with screws, which cross the chamber in both directions. The honey chamber, which is separated by a strong piece of plank with 2-in. auger holes through it into each apartment of the honey chamber, is divided by a cross-plank into two divisions, each one containing 12 frames for honey.

We put the bees in the brood chamber, and close the holes into the honey chamber until they fill the former, and then let them into one honey chamber at a time till both are filled. I never bother the brood chambers; I find that when they have them full they are generally strong and can contend with the moth, the only trouble we have here with our bees. We have no trouble in getting them through the winter, as we know that if we do not take from them too heavily they will come through. I find that a good colony put into the brood chamber will fill it in about 5 weeks. They do not swarm so frequently in this hive, and turn out better and larger colonies. I am better pleased with this hive than any I have tried. It is free for any to try who may feel so disposed.

Quitman, Ga., June 12, 1879.

For the American Bee Journal.

Bee Enemies in Texas.

W. M'CRACKEN.

In the last number of the JOURNAL inquiries are made in regard to the bee enemies. They are quite numerous here. Several species of the spider attack the bees early in the morning and in the evening; also several species of the ant disturb the bees day and night by carrying the eggs and brood out, while others carry out pollen and honey. The worst kind of the latter species is a very small black ant. The bees cannot catch or destroy them; they carry out the eggs as fast as they are deposited in the cells, and will break up a colony in a few days. There is another kind of ant as destructive as the black ant; in fact, more so, from the fact that their work is done so quickly; but they are fortunately not so numerous as the other. This kind is a long, slender, transparent ant of a light brown tint; they are nearly the length of a worker bee; their eyes are black and very bright, and they are the fleetest of all the ant species. They cut the combs and feed upon the honey, and mutilate the bees by biting off their legs. From 50 to 100 of these ants will drive out a colony of bees within two hours from the time of their entrance. They are not numerous only in the wooded districts.

The bee moth or miller is very numerous and destructive. The horned lizard, chameleon and two other species of lizards, and toads feast upon bees. Several kinds of birds eat bees when there is a scarcity of other food. But of all bee enemies the above-mentioned ants and the bee moth are the most formidable. By my new system I have at last got ahead of them by preventing the ant from entering and the moth from making a lodgment in the hive.

Bee-keeping in the South is progressing by a few apiarists, but it will be several years before the highest standard of scientific apiculture will have become a practical business. When there is pasturage, natural or cultivated, bees can be made to gather and store surplus honey in this country from 8 to 10 months in a year, which has been practically demonstrated. So far as I have learned, bees have done 100 per cent. better this year than last.

I met Friend Eckman, from Richmond, a few days since with a fine lot of linden honey for this market, for which he realized from 20 to 25c. per lb. He has 110 colonies of Liguarians, and uses the two-story Lanstroth hive. One of his hives yielded in 10 days 100 lbs. of surplus honey. I met another friend from Oyster Creek selling his button willow honey at the same price. He had 60 colonies of Liguarians, and said he would not take $1,000 for them. We have had an unusual dry spring and summer.

The JOURNAL is ever a source of pleasure when it comes; I wish it came every week. I am glad to know so many are getting along well with their bees and making money. Though money is said to be the "source of all evil," then from evil all good must come, hence from the thorny bee comes delicious honey.

Houston, Texas, June 17, 1879.

For the American Bee Journal.

Letter from Kansas.

N. CAMERON.

It may be in order, as one of the Vice Presidents of the National Association, to drop you a few lines. It is not, however, for the purpose of resigning, although my health is nothing extra. I think, however, it will bear up under the honors and duties of the office one year. The honors are easy, the duties large and the pay small, a state of things that is apt to secure disinterested work. I received from you a copy of certain laws passed by the States of New Jersey and Minnesota for the protection of the honey industry. Neither of these laws will be of any use as they now stand. The Minnesota law, while it provides penalties for certain things, it makes it nobody's business to enforce it, and consequently no one will enforce it. The New Jersey law, while it provides a way that it may be enforced, it is doubtful whether it will be enforced by voluntary complaint. The best feature of that law is the provision barring action in the courts to collect anything for adulterated stuffs. But the defect of this bill, as well as the other, is that it makes no provision as to who shall determine whether it was an adulteration or not. The defendant, for instance, would procure an analysis that it was just what it was represented. The plaintiff would have an opposite analysis, both from scientific men; now then, what would be the result? The case would be dismissed at plaintiff's cost. What the law needs, to make it more perfect, is a provision appointing a board of health in each county (or anything else you have a mind to call it), whose duty it shall be, whenever complaint is made to them, to cause an analysis to be made, and then if there is a violation of the law to prosecute, and that the analysis made by the board be evidence in court; and that it also be the duty of the board to seize and destroy all goods offered for sale contrary to law. Then with the other provision barring action in court, it would immediately throw the loss of the goods on the manufacturers, because merchants would not buy without a warranty, and when they found their goods destroyed without any recourse to recovery, the manufacturers would be very careful they did not violate the law.

Last winter we drew up a bill and had it introduced in the Kansas legislature. It got so far as to be placed on the calendar, from which it was stricken in the committee of the whole. This bill might not have been just the thing, but we did our best with the light we had at the time. Our legislature was too busily engaged in the senatorial contest to consider any measures in the interest of the people.

Bees wintered badly here, my own loss being about 60 per cent, and dysentery being the cause of mortality. Last year they filled their hives with honey-dew. This we would have extracted if there had been a fall honey harvest. This honey-dew was miserable stuff, not much to be preferred to cheap sorghum. In looking around through the country we find that some have suffered more and some less. One man had only 8 colonies left out of 85; he told me that he had kept bees for 50 years, and never lost any from dysentery. He laid his loss to the snow blowing around his hives and their freezing shut; nevertheless, his hives showed the unmistakable signs of dysentery.

This season has been very poor in this vicinity; too dry up to the present writing, but we have had plenty of honey-dew from last year, so that we have kept our bees doing their best in brood-raising.

One other thing and then we close. Is it in keeping with the proverbial fairness of the "Old Reliable," not to allow your correspondents to have their choice of the orthography of a disputed word? I refer to apiarian or apiarist. The latter word some of us have discarded, as we have other antiquated and useless apiarian fixtures; its very ugliness and harshness of pronunciation condemns it. The mere fact that it appears in the dictionary is no reason why it should not be discarded. If we held rigidly to the dictionary farther progress in improving orthography would be impossible. We simply ask that we be not misrepresented. We recollect that at one time that there was a z in the word Kansas. This orthography Horace Greeley and the New York *Tribune* tried to maintain, but it was doomed and soon went by the board. So of this word apiarist, its doom is sealed. After a while there will be written in the dictionaries opposite to it the word obsolete, the same as you may find in regard to the word sectariest.

Lawrence, Kan., June 16, 1879.

[We had supposed the difference of opinion regarding the use of the word "apiarian" was settled in the May number of the Journal, 1877, p. 165. We are sorry friend Cameron—so universally correct in everything else—persists in this little hobby; but, then, all great men are said to have hobbies.—Ed.]

For the American Bee Journal.

Using Empty Frames.

N. H. BROWN.

In the January number of the American Bee Journal is an article from the pen of G. M. Doolittle, entitled "A Criticism—Comb Foundation." The position taken in that part of the article devoted to the criticism of Prof. Cook's Manual differs so widely from my own experience during the past 10 years, that I cannot refrain from having my say on this subject. I have never practiced that plan of swarming, except on occasions when I remove a queen from her hive in order to get her stock for queen rearing. I then use the plan indicated by Prof. Cook, and against which Mr. D. protests; that is, I take a frame of brood from each of 6 or 8 colonies and build up a colony for my breeding queen, filling the vacant spaces thus made with empty frames.

I never hive a natural swarm without giving them a frame of brood from some other colony, giving the despoiled colony an empty frame instead, unless I happen to have empty combs, which I seldom have, as I prefer to give a swarm a hive full of empty combs. I have never in the latter case had a single drone cell built, and only one in the frame and that during the month of August, 1877. I removed a choice queen from her hive and built up a colony for her in the manner under consideration; the empty frames placed in the various hives on that occasion were all filled with drone comb. I do not know whether this would be the usual result of this process at that time of the year or not, as I seldom raise queens after swarming time; but I am inclined to think that it would, for at that time there are plenty of workers and usually plenty of honey, and they are in great haste to gather it, hence they build drone comb as the easiest and cheapest means of providing storage for the honey.

I have had occasion to insert about 20 empty frames this season, during May, and they were all filled with worker comb and brood in a few days, and I did not use foundation either. As Mr, Doolittle's article suggests, locality may account for the different results. I wintered 42 colonies in the cellar and 1 outside, all coming through in good condition. The prospect for surplus is not good, drouth having dried up the clover bloom almost entirely.

I think I have discovered the cause and cure of spring dwindling complained of by so many correspondents of the American Bee Journal, and will make a report of it in time for bee-keepers to test it next winter.

Plainview, Ill., June 16th, 1879.

For the American Bee Journal.

Apiculture in Florida.

R. H. M'INTYRE.

Bees have done worse here this spring than ever before since any of us, now living here, have any recollection of. All of my strong colonies had plenty of honey and brood March 1st, as the soft maple gave a very good yield. But the months of March and April were very cold and wet for this place. The flowers seemed to yield very little honey. They commenced to get considerable honey in May, but the mosquito hawks came in legions and kept the workers killed off, so that they hardly got honey enough to live on. I had strong colonies May 1st that had not a tablespoonful of honey in their hives. I have had only 20 swarms from 50 colonies. I have a neighbor who had 40 old colonies who only got 3 swarms.

Bees have been gathering honey quite freely, since the middle of May, from the bay and low palmetto bloom. The prospect for the cabbage palmetto bloom is good.

I have had a great deal of trouble losing my young queens on their flight to mate. I have lost at least 40 per cent. in that way this spring. The forage has been so poor that my bees have been very cross, so that it has been very difficult to introduce young queens after they became fertile and commenced to lay.

I have introduced successfully this spring by putting the queen in a cage and sitting the cage on the alighting board, near the entrance to a queenless colony, and when there is quite a number of bees on the cage that are trying to feed her, let her out and she will go in attended by those that were friendly to her, and all will be right. I believe I have lost as few by that method as any I have tried. I use a cage in which there is honey out of reach of bees on the outside, so that she can feed herself. They sometimes refuse to have anything to do with her, except to try to get hold of a leg or wing and pull them off.

The mosquito hawks have been very bad this season. They do not eat the bees, but catch the worker as it is returning with its load of honey, tear its honey sac open, eat the drop of honey, then drop it and go for another. I sat near the entrance of a hive, which was near a bush, one evening and saw a mosquito hawk catch and kill 15 workers. He flew to the same place to kill them all. I picked up the dead bees under the limb he sat on.

I have just finished a house, 12x24, 8 ft. wall, in which I have room for 52 colonies. There is a distance of 3½ ft. between entrances; is lighted by skylights; hives sit on shelves so they can be moved the same as any other stands. The cost of house ready for bees was $53.64. I can handle them without being troubled with robbers. I shall take all the honey from those in the house with the extractor.

Is there any prospect of our having the privilege of sending queens in the mail again? I live 80 miles from an express office, which makes it very inconvenient to send queens, unless in large numbers.

There is quite an interest growing up in this vicinity in apiculture, and a few are using modern appliances and some are trying Italians. The moth is very troublesome among the black bees, but do not trouble my Italians or hybrids.

Daytona, Fla., June 16, 1879.

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For the American Bee Journal.

Wired Comb Foundation.

C. W. & A. H. K. BLOOD.

We are having excellent success in using foundation in wired frames. Not only is all sagging avoided, but the combs do not bulge or wave. After our frames are wired, we place the foundation on the wires and set the frames in the sun until the foundation softens sufficiently to allow the wires to be imbeded, when a little pressure is applied above with a roller. There is no necessity of fastening the foundation to the top bar; if it comes close to it the bees will fasten it before drawing out the cells. We use tinned wire No. 34 or 36, and have the wires from 1 to 1½ inches apart. As no cells are destroyed by the wires, we do not think this distance places them too close, and it allows the comb little or no chance to bulge.

Comb foundation is now used by all progressive bee-keepers. Even those who predicted its failure and foretold dire calamities from its use, are quietly falling into line, and acknowledge it a great invention and a common blessing. But the man who uses foundation without wire fails to reap one-half of the benefit to be derived from its use. Frames may be nailed and wired during stormy weather, and exposed to the sun and the foundation inserted any warm clear day. They may then be packed away with little fear of the moth, and are ready for use any time during the season. We wired over 100 frames early in May, and they have been drawn out and some of them have had two sets of brood. In many cases eggs are laid directly on the wires, yet we have never seen a single larva die on account of the wire. After the first bee has emerged from the cell the wire is covered with the chrysalis skin.

After testing these wired frames, we should be unwilling to pay over one-half price for natural combs! The combs are straight, there are no drone cells and bees can be shipped without danger of combs breaking down. For wired frames we use foundation with the natural base. We have also tried the flat bottoms with the wire rolled in. As this foundation has the wire incorporated in it when made, could we fasten it as securely to the top and bottom bars, as we are able to do in the wired frames, we certainly should have no objection to the flat bases, as our bees change the base to its natural shape in drawing out the cells.

We have fastened this foundation to the top bar by braiding small strips of wood against it, by shaving off a portion of the wax and gluing the wires; also in other ways; we have fastened it at the bottom bar by splitting the bar, passing the foundation between the parts and braiding together. This is almost as much work as wiring frames, and we find that some of the combs have bulged a little. There is certainly one point in favor of the flat-bottomed foundation. As it can be made very thin, we can have more comb built from a pound, if we wish the bees to furnish the additional wax.

Let all bee-keepers report their experiments in the bee papers, and we shall continue to advance in the science and be mutually benefitted.

Quincy, Mass., June, 1879.

Bees Deserting their Hives.

W. H. SEDGWICK.

The reason why a natural swarm of bees issues in the honey season is that the parent hive becomes crowded with bees, brood and honey, and the instinct of the queen or mother bee causes her to prepare for emigrating by depositing drone eggs, and the bees construct queen cells, so the mother colony may be provided with a new young queen; and when everything is just right, and if the flowers are secreting honey, and the weather is fair, then the old queen leads off a swarm from the original colony, from which, if it is properly hived, the bee-master has one more colony to add to his apiary—however, if the weather is unpleasant, and the blossoms yield an insufficient supply of honey, they often change their mind, tear down the queen cells and refuse to swarm at all. "Who will say that bees do not manifest wisdom? What prudent man would emigrate with a family if famine were plainly indicated, when by staying at home he would have a present abundance?"

The multiplication of colonies by swarming, both guards the bees against the possibility of extinction and makes its labors in the highest degree useful to man. Now this is the natural method, and the only condition under which the honey bee will throw out a swarm. There are other circumstances, however, when bees do swarm out and leave their hives in unnatural seasons of the year, but under certain conditions perfectly understood to any one who has given this fascinating pursuit of bee-culture the proper study. In queen-rearing the bee-keeper is very liable to lose his swarm, when the young queen issues to meet the drone, if he has not supplied the young colony raising the queen with unsealed brood; when the queen leaves on her wedding trip the entire colony will follow her, and more than likely be lost, leaving the combs deserted and hive as quiet as the grave.

The bee-moth, mice and cockroaches will often cause the colony to desert their home. Poverty and the loss of a queen is a frequent cause for bees to swarm out; often they force their way into another colony, return to their present hive, or cluster on some neighboring bush, and as they have under these circumstances grown desperate, they frequently leave for parts unknown and certain destruction. Bees that have an abundance of honey sometimes desert their hives for want of pollen, or bee-bread as it is called. Bees cannot rear brood without this pollen, the little pellets of yellow they carry home on their legs, during the honey season, and save for future use.

Now this case of a swarm of bees being found as you report, no doubt arises from some discontented disposition arising from some deficiency or disagreeable feature belonging to the interior of the hive, and the most common cause is the want of food. Bees will desert their hives both in fall and spring for this cause alone. The veteran bee-master, Mr. Quinby, in his "Mysteries of the Honey Bee," says "bees will sometimes entirely desert their hives when destitute, especially if they have but little brood. In these cases they issue precisely as a swarm." This swarm on Mrs. Elliott's farm could not possibly, at this season of the year have any brood whatever, so I conclude that the cause of this swarm being found as stated, was owing to the fact that they were starving—had no honey; and becoming desperate, seem to have had a presentiment that they must perish if they remained, and instead of awaiting the sure approach of famine they sallied forth to see if they could not better their condition.

"Anywhere, anywhere
Out of the world."

Langstroth says, in his excellent work on the "Hive and Honey Bee": "I have known a starving colony to leave their hive on a spring-like day of December."—*Exchange.*

From the Prairie Farmer.

Making Bee-Hives.

MRS. L. HARRISON.

"Can you give any plain, simple directions for making bee-hives? Should there be a window in one side, with a slide over it which can be removed occasionally? Please answer through your valuable paper.

Le Roy, Ill., June 9. W. O."

Most any one can make a box to hold frames, but we doubt very much whether such hives pay. A farmer does not build his own house, or make his plows or boots, and why should he construct hives for his bees? If he desires to keep bees only to furnish his own table with honey, better purchase a small quantity of No. 1 hives, and keep them well painted. We know of a farmer who owns 20 hives; he says that he "does not want to go into the bee business," so he selects 10 of the choicest colonies to winter, brimstones the rest, and shuts up the hives until another season. The following season he lets them swarm once, and puts them into the hives filled with comb and honey, and puts on surplus boxes. The second swarms are returned after the queen cells are destroyed. In this way he gets a large supply of honey without any extra outlay, except for surplus boxes.

We fail to see any benefit resulting from a window in the side of a hive—patent hive venders might. The bees would soon cover the glass with propolis, and if they did not only the side of one frame could be seen revealing very little of the condition of the colony.

A friend writes: "I was over my field of red clover the other day, and saw thousands of Italians hovering over the heads of clover, I will give it as my opinion that some of the bees I saw probing the honey cups in the red clover, were gathering the sweet nectar." The unparalleled drouth has caused the heads of red clover to be smaller than usual, and bees can reach the nectar, as it is claimed by some apiarists that Italians often gather honey from the second crop, for the same reason. We should try to raise bees, as the Irishman says, "with a longer fut," so they can always reach this mine of wealth stored in the deep corollas of the red clover.

Peoria, Ill., June, 1879.

From the Prairie Farmer.

Bee Moths and Italian Bees.

MRS. E. J. BAXTER.

"Are you never troubled by bee moths?" asked a successful old farmer who seemed to be very much disappointed at not finding moth traps about our hives. "No," I answered, "the best way to make a hive moth proof is to keep it full of Italian bees."

He believed, as many do, that moths had destroyed his bees, and what he wanted was something to keep them off. The fact is that bee moths take possession of the honey combs only when the bees can no more defend them. Bee moths can no more destroy a colony of bees than the insect which ruins costly furs can kill the animal that furnished it, or the moth worm which feeds upon woolen fabrics can become injurious to sheep.

An inexperienced bee-keeper may think that his bees are doing well even when they are losing strength from such causes as as starvation, loss of the queen, or drone-laying queen, etc. The person well acquainted with the ways of bees can see at a glance whether they need anything or not and supply their wants in a few minutes, thus rescuing them from moths.

Many colonies died last winter on account of the deep snow, which closed the entrance of the hive and prevented ventilation. Uninitiated bee owners may see bees going in and out of those very hives as the spring sun begins to shine, and not being acquainted with the ways of robber bees, may infer that the bees have wintered safely. If after some time they find ugly worms crawling all over the combs, their conclusion will be moths must be very destructive to bees. I have often heard practical bee-keepers say that they never take the trouble of killing moths, as they considered them perfectly harmless. I would be disposed to make the seemingly absurd statement that bee moths do bees more good than harm, for they punish the bee-keeper whenever he neglects some of his duties toward his bees, when they destroy the combs.

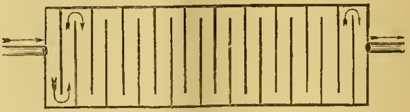
For the American Bee Journal.

California Honey Evaporators, Etc.

S. C. GRIDLEY.

The AMERICAN BEE JOURNAL for June arrived last evening; am always glad to receive it. I have noticed from time to time items in the JOURNAL in regard to the way we do in California to evaporate the water out of honey. I will give you my plan of doing it, which I think is better than deep tanks:

The honey from the extractor runs through a galvanized iron pipe, 1¼ in. drain, a distance of 50 ft., emptying into a pan 3x6 ft., 4 in. deep, made in this manner:



This pan is put into a wooden case and covered with a glass sash; set it at an angle of about 45°. The honey runs around these partitions, back and forth a distance of 100 ft., before it reaches the outlet at the further end; from there it passes through 10 ft. of pipe into the tank, containing one ton. By the time it reaches the tank the water is pretty well evaporated.

Three days ago a terrible fire sprung up in the woods, and my apiary being in the track was burned through. My shop with all my tools, 13 doz. 80-lb. tin cans, 200 new hives just painted, with their frames, etc., my bee books—Langstroth, Quinby, Wilkin, Harbison—and JOURNALS, besides some circulars of apiarian supplies that I had not yet had time to read; in fact, burned everything but my smoker, which was in the extracting house. Fortunately, it only burned 4 colonies of bees, the rest escaping. On examination after the fire found none melted : all in good condition.

We shall make no honey this year in California. If the bees get their living it is all we hope for. I also lost by the fire my bee range and 4 acres of wheat. Altogether the loss will amount to $500, uninsured. I use frame 11¼x9 in. inside measure; 9 frames in lower hive and 12 in super.

This valley, the Ojai (O-hi), is a fine place for bee-culture; we have 6 apiaries here. Last season the largest produced 20 tons of extracted and 5 tons of comb honey. The honey was marketed in New York City.

Nordhoff, Cal., June 7, 1879.

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From the Indiana Farmer.

How to Prepare Bees for Shipping.

J. M. BROOKS.

Having had considerable experience in shipping bees, I will give my way of packing them for long distances in warm weather: If you have an empty hive, like those containing the bees, prepare it by sawing a hole in the bottom board 8 or 10 in. square. Tack wire cloth over this; and unless the hive has legs to it, nail cleats on either side of the bottom to raise the hive up, allowing a free circulation of air under it. Saw some sticks of straight-grained pine—three-sixteenths square is about right—cut them in lengths one-half inch longer than your frames measure in height. Cut a notch at each end of every stick. Take small copper or soft iron wire and cut it into 3-in. lengths; twist a wire on one end of each stick. Having tham all ready, lift out one of the side frames, fasten these sticks, 4 to 6 according to the length of your frame, 2 to 3 on each side of the combs, twisting the wire tightly around the ends of the sticks. They are intended to hold the combs from falling out should they become loose in the frames. Set the frame in the prepared hive as fast as you put on the sticks, and in the same order that they were in their own hive. Space the frames an equal distance apart, and nail them down. A small nail or brad in each end will hold them from moving together. With an inch bit bore holes in the rim of the lid or cap, tacking wire cloth over them on the inside. Place the lid on the hive, leaving off the honey board or other covering you have had over the frames, letting the bees go up and cluster above the combs into the lid. Fasten the lid down securely with strips of sheet-iron, using screws or nailing them to the lid and body. Pack them all in this manner, and the evening before you move them tack wire cloth over the entrances.

Bees, to go long distances by freight, must be carefully packed, and have free circulation of air through the hive in hot weather. In placing the hives in the car, be careful to have the combs run lengthwise of the car. Never set hives crosswise. The sudden starting and stopping of freight trains will keep the frames constantly slashing together, and killing the bees. I hardly think it necessary to fasten the frames at the bottom, if you are careful in loading as above. Bees to be shipped by freight and be 7 to 10 days on the road, should, if possible, have some one to care for them, giving a little water occasionally, and wetting the hives and car floor to keep them cool, it they seem to become uneasy. Never let the sun strike a colony while closed up, and be sure they have an abundance of air before you start with thenf, or you may have trouble. I don't think it will be necessary to take away any of their honey, if you are careful to put on sticks enough to support the combs.

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From the London Times.

The Bee's Cell.

REV. C. LACY.

In your excellent article on Mr. Romance's lecture on animal intelligence at the British Association, you allude to the case of the bee's cell, and say, in reference to the mathematical properties of the hexagon, "we must either admit that every bee solves a difficult mathematical problem, or else this problem has been solved for all time in the construction of their nervous condition." Either of these admissions implies that the bee itself makes its cell in a hexagonal form. There is, however, a simpler explanation. The hexagonal form is, quite independently of the bee itself, the necessary mechanical result of the mode in which the bees work, and the cell could not by any possibility be in any other form.

The case is this: The instinct of the bee is to make a cell in the cylindrical form by the circular motion of its head, just as a silkworm makes its cocoon or a burrowing animal its hole. This is shown by the outer cell of every honey comb, which are always semi-cylindrical where there has been no pressure from the inside. If the bee, therefore, worked alone its cell would be cylindrical. Another instinct of bees, however, is to swarm and crowd together in everything they do. They thus work at their cells side by side, and every bee as it works away at its cylinder is surrounded by as many others as can get close to it. That number is exactly six, neither more nor less. Any one can ascertain this for himself by placing a coin on a table and then putting round it as many similar coins as he can. He will find that six such coins will exactly touch each other, and each exactly touch the central one. This is the geometrical law which produces the hexagonal form of the cell. Each bee is pressed upon by six others (excepting, of course, the extreme outside ones), and thus the interstitial curves of the cylinders get squeezed out as they are made, become straight lines by the mutual pressure, and every cylinder necessarily becomes a hexagon as its ultimate form.

The same cause produces the peculiar prismatic form at the bottom of each cell. The instinct of the bees is not only to cluster together, side by side, but also to work at their cells in a double plane, head to head. Each bee, therefore, as it works its head round from a hemispherical end to its cell, has six other heads pushing round it in the opposite direction, trying to do the same thing. The necessary result is the prismatic form we see.

The formation of the hexagonal cell is thus as entirely mechanical as when a horse tethered to a peg describes a mathematical circle by being put into a gallop. He is trying all the time not to describe a circle, but to go off in a straight line; but the restraining cord, tightened by his efforts, becomes a radius, and a circle is the necessary result.

In both cases alike the effect is entirely geometrical, and the will of the animal has nothing whatever to do with it.

A Worker's Account of Himself.

L. S. TOMPKIN.

The honey bee, the friend and companion of civilized man, in every age and almost every clime, has contributed more pleasure and profit to the sons of Adam than all the insect tribes combined.

See the little busy bee gathering sweets from the various flowers that bloom on the tressal that arches the window or portico of some rural suburban cottage. Listen to the humming sound that emanates from his fluttering wings as he moves around and delves deep into the opening bud, and in the language of nature says to the quiet inmates: Erect me a little house under this overhanging vine or evergreen or fruit-producing tree, and I will assemble an army of workers and form a colony, take possession and afford you and the inmates of your house, not only amusement and pleasure, but add knowledge and profit to your already accumulated stores. I will improve your crops of fruit and vegetables and carry the fertilizing pollen and inoculate the barren flower and make the sterile shrub yield its quota in the coming harvest. I will infuse new life into husband, wife and children, and open up to their benighted understandings new fields of thought and mental investigation. We will continue our labors from early morn to dewy eve, feed our own laborers and demand no pay save the watchful care and kindly protection of the household. Our surplus stores shall be devoted to the uses of your family, and no daintier dish was ever placed on the table of a king. Our annually increasing colonies are at your disposal. "Faint heart never won fair lady." A spirit of enterprise and industry must mark your actions in your intercourse with us, and your general treatment of our colonies must be dictated by common sense, which must be improved upon as our value enhances and our number increases.

I am a little working bee. My life is short at this season. If I survive 50 days I have attained unto the full average age of my class; therefore we have no time to idle; we must make hay while the sun shines. Often in my flight I have been pursued by birds, and when returning home laden down with valuable stores and ready to light upon the entrance board of our hive, time and again has the toad and lizzard essayed to devour me. The inexperienced and careless bee-man has destroyed his thousands by crushing us in handling, as though we were made of iron or india rubber. The brimstone man deserves a monument; in the course of time we intend to erect one to his memory, and write his epitaph that he may be seen and read of all men.

Our mother, the queen bee, is the very soul of industry; never tires in well-doing. She lays her eggs day in and day out, and keeps our hive well stocked with young bees. She flies out when quite young and makes her bridal trip. She is so domestic in her habits, that she remains at home ever afterwards, unless she finds dissatisfaction among her offspring, which is manifested by a disposition to raise a successor or usurper. This she will not tolerate. Therefore, she takes her departure with all the old bees that will follow and leaves her rival in possession of her former home.

The drone is our father. He is a non-producer, in fact, a consumer. He has no sting, and when he ceases to be useful in his sphere, we destroy him without any compunction of conscience.

The merciless and unscientific robber is our greatest enemy. The lay, indifferent and careless apiculturist is a stumbling block in the way of our progress, and success can only perch upon the standard of those whose highest aim is victory, and eternal vigilance secures the reward of their labors.

From the Canadian Farm Advocate.

How to Know Robber Bees.

C. F. D., NILE.

A robber bee, when he approaches a hive, has a sly, guilty look, and flies with his legs spread in rather an unusual way, as if he wanted to be ready to use his heels as well as wings, if required. He will move cautiously up to the entrance, and quickly dodge back as soon as he sees a bee coming toward him. If he is promptly grabbed as soon as he attempts to go in, you need have but little fear. If a bee goes in and you do not know whether he was a robber or not, you must keep a close watch on the bees that come out. A bee in going to the fields comes out leisurely and takes wing with but little trouble, and his body is slim, for he has no honey with him; but a bee that has stolen a load is generally very plump and full, and as he comes out he has a hurried and guilty look; besides, he is almost always wiping his mouth, like a man who has just come out of a beer-shop. Most of all, he finds it a little difficult to take wing because of the weight, and he feels instinctively that he will be quite apt to tumble unless he can take wing from some elevated position, and, therefore, he crawls up the side of the hive or to the extreme end of the alighting board before he launches out. When he first takes wing he falls a little by the weight of his load before he has his wings fully under control, and, therefore, instead of starting out as a bee ordinarily does, he takes a downward curve, coming quite near the ground before he rises safely and surely.

With a little practice you can tell a robber at a glance by his way of coming out of the hive. As soon as you find bees coming out of the hive loaded, shut it up at once. If there are not many of them there will be but little danger of suffocation, but if the colony is strong you will have to give them ventilation. Remove the block from the entrance at sunset to allow the robbers to escape, then close it again, leaving room for 1 or 2 bees to pass at a time. When you find bees robbing, contract the entrance of each hive and it will help them to protect their stores. If robbing is not stopped, and the work is under real headway, the honey of a strong colony will disappear in from 2 to 12 hours, and the bees will then starve in the hive, or go home with the pillagers, or scatter about and die. This is not all. When the passion is fully aroused they will not hesitate to attack the strongest colonies, and you will find your bees stung to death in heaps before the entrances, and at such times the robbers will attack passers-by, and sometimes venture an attack on cats, dogs or anything that comes within reach. The Italian bees will protect their hives much better and are not as liable to rob as the common bee.

For the American Bee Journal.

Successful Wintering of Bees.

D. A. M. HILLS.

I am located nearly at the top of the Allegheny mountains. The mercury often goes down to 20° and 25°, sometimes for days together below zero. Such has been the case during the past winter, with a great amount of snow, there not being 1 day out of 20 fit for bees to fly.

I put 23 colonies of bees in American hives into winter quarters as follows: I made a chaff cushion long enough to go all around the hive and wide enough to reach from the top to the bottom of the hive. I shut up the bottom vent pretty close, took off the cap entirely, laid a small stick or cornstalk right across the holes to the surplus boxes, in the top of the frames, and over this put two or three thicknesses of carpet, leaving one hole on each side uncovered. Then I laid a chaff cushion, six inches thick, on top, having it large enough to rest on the edges of the hive and not let it down on the frames. Then over this I turned a "W" dry-goods box, which was puttied and painted on the bottom to prevent leakage. The edge of the box rested on the ground all around and shut the bees entirely in the dark, so they would not become restless on sunny days when it was too cold to fly.

March 5th being warm and sunny, I opened them up, taking the boxes clear off, as well as the cushions, and opened up the hive below, cleaned out the dead bees and opened the top and gave them a good fly. Before and all around on the snow, which was over one foot deep, I spread paper, old carpet and burlaps or straw. I tell you it was a pleasing sight, all well, hearty and strong, and the happiest things I ever saw.

But I have learned that even in this cold climate bees can be kept too warm, for every colony where I had not put on a long cushion around the hive was in a better condition than those which had the cushion around them—fewer dead bees and much dryer. So hereafter all bees that I winter on summer stands I shall cushion on top, with plenty of upward ventilation, and a box turned over them, closing up around the bottom of the box tight with sawdust.

I had 7 colonies in the cellar. I set them out to fly, and they were in a most perfect state, there not being a gill of dead bees in any one hive.

Clearfield, Pa., March, 1879.

Popular Illusions.

R. M. R.

LAZY BEES.—One of our most successful and intelligent farmers said: "The bees seem to get lazy and quit work during the hot weather." He was right in his observation but mistaken as to the cause. Clover and other flowers yield but little honey during hot, dry weather, and the bees always quit work when there is no honey for them to gather.

BLACKS KILLED BY ITALIANS.—An aged lady who had been rather successful in managing bees, said: "The Italians killed all of our black bees." The black queens had been removed and Italians introduced in their stead. And it did not occur to the lady that the bees in any colony are continually changing—the old dying and the young taking their places.

COMB MADE FROM POLLEN.—An eloquent and popular divine told us in his sermon about the patient, industrious bee gathering the farina from the flowers and working it into comb. Now, readers, did the preacher make a mistake?

WILL THEY STING?—A bee often alights on a person just as it would on a fence or a tree, and if let alone it will fly away in a few seconds, and not once in a thousand times will it sting. It is only in the vicinity of their hive that bees sting intentionally.

COMB GUIDES.—Not long ago some one advertised a comb guide, claiming that by its use the bees would be compelled to begin and to continue to build worker comb. Now the man who makes any such claim is either ignorant or dishonest—possibly both.

The age of the queen, the strength of the colony, the yield of honey and various other things, have something to do with drone comb building, and when left to the free exercise of their instinct, they will change from worker to drone or from drone to worker comb, just as "the spirit moves them."

LUCK WITH BEES.—I don't know what's the cause of it, but I never have any luck with cows. I always give them lots of feed, but it don't seem to do them any good; they get the "horn ail" or the "wolf in the tail," and they never do us a bit of good. I never had any luck with early lambs; the ewes don't give much milk, and the half of them won't own their lambs. Now, reader, how does this sound? I think that many of you will say, "You make your own luck." I suppose you are right, so far as the cows and lambs are concerned, but when it comes to the bees it's all luck there. If the bees don't go into the honey boxes to work, or if the swarms go to the woods after you have hived them, or if you go to your "best colony" and find worm-eaten comb and no bees, it is all luck. The bee-keeper is not to blame.

LIGHT, PLEASANT EMPLOYMENT.—In this respect bee-keeping is not different from many other vocations. It requires, during the honey season, that regular, ceaseless attention which must be given to any business to insure success. If 12 hours' (Doolittle says 16) work per day in hiving swarms, changing sections and extracting honey is light work, and if handling a colony of cross hybrids is pleasant work, then "light, pleasant occupation" is not a misnomer.

LARGE PROFITS.—These reports usually come from two classes of persons. First, those who report the amount of honey obtained from their best colony and say nothing about the poor ones. Second, those who are interested in the sale of some patent hive and are willing to tell any kind of a falsehood for the purpose of advertising their "wares." In 1876 my apiary of 15 colonies might have been reported as follows: Best colony, $34; best 3 colonies, $80; poorest colony, $00; poorest 3 colonies, $10; average of the 15, $12.—*Exchange.*

For the American Bee Journal.

Euonymus as a Honey Plant, &c.

J. W. HUDSON, M. D.

I have never seen the Euonymus spoken of as a honey-producing plant or tree. The Euonymus is used with us for hedging, and a beautiful one it makes. If not trimmed it flowers about June 1st, and remains in bloom about a month. It blooms very profusely, and bears a beautiful red berry of which poultry and birds are very fond. I have a portion of a hedge, about 50 feet in length, which has been permitted to grow for several years without being cut in. The plants are now from 10 to 15 feet in height, and are densely covered with bloom. Bees and all honey-gathering insects flock to it from morn till night. As to the amount of honey it yields I cannot say; can only judge from eagerness with which the bees "go for it," and they work all day. So this beautiful evergreen can be made both ornamental and useful. I always read with interest the articles published in the AMERICAN BEE JOURNAL, but was particularly well pleased with Mr. G. M. Doolittle's article on "Management During June," in the present (June) number. Will you give us, or get some one qualified to do so, instructions how to keep drones through the summer, by some other method than making the colony queenless? Have used small triangular pieces of the thin flat-bottomed foundation as starters in section boxes, and am delighted with it. I can see no objections to the use of it in this way, when such small pieces are used. I cut it into squares of about 1½ in., then cut diagonally, giving the triangular pieces. The bees do not simply add to, but they work over the foundation, drawing out the cells and remodeling the whole shape of piece, soon giving it an elongated shape with neck-like attachment to section. The bees have commenced on starters in every section, building more or less comb, in racks that have been in only a week, while in some sections without starters they have done nothing, though racks have been on 2 and three weeks. May not the use of these starters do away the necessity of separators? If so, it will be a gain, as bees work in sections sooner without than with separators.

Mayesville, S. C., June 18, 1879.

For the American Bee Journal.

Treatment of Foul Brood.

HAMILTON H. HURNARD.

Very many thanks for sending me the recipe for foul brood, which I shall try, but I have succeeded pretty well in the following ways: Some I tried taking out affected combs and replacing them by clean worker combs; others I tried taking away all their combs, shutting them up for 36 hours, then giving them new hives, clean combs and feeding them for a short time; with others I tried the following: 500 grammes carbonate of sodium, 10 to 30 grains salicylic acid in 4 gallons of warm water, in this I dipped combs with bees adhering, just as I took them from the hive, changing hive at same time for clean one. But of the three methods, shutting them up for 36 hours seemed the most effectual. This is a very disastrous year for bees; it seems worse than 1877, when we had the severe drouth. This year the scarcity of honey is not caused so much by want of the requisite amount of rain as by bad weather, as we have had nothing but cool winds and cloudy weather all through our best time for honey gathering, and the flowers are secreting no honey. Besides, at the present time many are actually buying honey and feeding their bees, a thing unheard of as early as the beginning of June. I think the whole of this part of California must be included in "Blasted Hopes" this year.

Los Angeles, Cal., June 11, 1879.

Conventions.

Texas Association.

The Texas Bee-Keepers' Association met at McKinney, Collins Co., June 9th, 1879, Judge W. H. Andrews, President, and F. F. Collins, of Dallas, Secretary *pro tem.*

The President delivered an address which was well received, and calculated to promote bee-culture both for profit and pleasure. Owing to the protracted drouth in a large portion of our State, the attendance was much smaller than had been hoped for, but we had 14 accessions to our membership. After the business of the Association was completed, the President had smokers lighted—Bingham, Quinby and cold-blast Simplicity,—and invited us out to his apiary, and it is a fine one, consisting of 255 colonies of the finest bright Italians, in the nicest of American hives. He then showed us his tests of purity of the Italian, and also some of the so-called dark Italians, some of which he said he bought for pure, and others that he said he had bred purposely for exhibition at this meeting. He pronouced them all frauds. Judge A. being by far the most experienced and extensive cultivator of Italians in our State, his remarks and exhibitions were the most interesting possible.

Upon our return to our room (Judge A.'s parlor) his most excellent lady invited us to dine with her which we did, to her great pleasure, as it seemed, and to our full satisfaction. After dinner Miss Mary, the Judge's daughter, gave us some very sweet music, then we resumed labor, and Mr. F. F. Collins, of Dallas, gave us a history of the "great plague"—foul brood—as it rages in his city and vicinity. He was quite particular, and his remarks excited much interest. Dallas is the only place in our State where this disease has ever been known, having been there nearly four years. Its origin there is not known, but is supposed to have come with an Italian queen from some section where it was raging.

Mr. Collins had quite a large lot of bee-keepers' implements on exhibition. He keeps them for sale, and our apiarists were glad to know that we had such an enterprise in our State.

Our Secretary, Dr. W. R. Howard, of White Rock, Hunt Co., came in at 2 o'clock, but by request the *pro tem* secretary continued to discharge the duties, and the Doctor took an active part in the proceedings.

The President brought forward some sample hives that had been sent in for our opinion, to some of which there were so-called moth-traps, that are claimed to prevent the ravages of the much-dreaded bee-moth. The Association unanimously declared all such traps to be humbugs, and that the inventors and vendors of them are far behind the age. This Association entertains no hostility to patents, but only to those that are worthless. We differed largely as to the best hive, but agreed that the movable frame is indispensable to the intelligent cultivator of the honey bee. We agreed that it was a waste of time to discuss the methods of wintering bees here, as it is known that they will live any way in this climate, if provisioned.

All praise was given to the improved bellows smokers, as they have dispensed with the old hot and inconvenient bee-hats and gloves, and made the timid brave and the work of bee-culture easy and agreeable to all. It was a notable fact that in the examination of 20 to 30 colonies in a hot dry day, there was not one of the members stung, and not a bee-hat nor glove in the company. Many questions were discussed as to how a honey crop should be stored. All the sections, boxes, extractors and the markets, etc., were liberally debated, but there was much diversity of opinion and a conclusion was impossible.

Our Secretary, Dr. Howard, had a good lot of entomological instruments with him, and the second day of our meeting was devoted to the dissection of queens, drones and workers, and the examination of many honey plants of this section. This excited much interest and was quite a treat for most of those present.

The meeting adjourned at 4 o'clock on Tuesday, the 10th, to meet at Greenville on the 12th day of July next, when new officers will be elected, and much other interesting business will come up for action. We will make arrangements for representation in the next National Convention, etc.

W. H. Andrews, *Pres.*
F. F. Collins, *Sec. pro tem.*

Muscatine, Iowa, Convention.

The Association convened at the court-house, in Muscatine, at 10 o'clock a. m., Major Lyman Allen, President, in the chair, and A. N. VanCamp, Secretary, with a fair attendance of other members present.

Constitution and by-laws and Secretary's report of meeting of organization of Dec. 13th, 1878, called for and read.

On motion, Messrs. Geo. Parks, W. F. Kirk and J. P. Lewis were appointed a committee on programme.

Wintering Bees.

Mr. Wm. Clement, of Malcom, favored wintering in doubled-walled hives, and gave statements of fatal results in his locality, the past winter, in the use of single-walled hives, while without exception those in double-walled hives came through in perfect condition; the bees commenced breeding in them very early; thought their use in a large apiary a great advantage and labor saved.

Mr. D. D. Palmer thought double-walled hives too expensive, especially when bees had become so low in value, and followed by stating his experience in cellar wintering the past winter. Carried into cellar 130 colonies before cold weather set in; being absent from home, depended on persons whom he had employed to carry in the balance; this they did not do till about Jan 10th, 1879, at which time 150 were placed in the cellar. Of the first 130 but 2 were lost, which became queenless; of the 150 lost about one-half; thought style of hive of but little consequence.

Mr. Lewis Coe thought that in winter quarters. whether cellars or houses, it all depended upon a proper regulation of the temperature.

Rev. E. L. Briggs had studied bees for about 30 years, and in 20 years of cellar wintering did not think he had lost to exceed 1 per cent.; he never lost a colony in a cellar, when they were in good condition when placed there; always placed them in the cellar when dry and before cold weather set in; never let cellar get below 32°, and never left it at that; let it average 35° to 40°, and if bees are healthy none will be lost. He described the manner of ventilating hives and cellars; favored the Langstroth hive, and considered bees a very profitable investment.

Mr. Clement thought a double-walled hive could be made with as little expense as a Langstroth.

Marshall Farnsworth did not put his 40 colonies in the cellar until the first part of January, and as a result now has only 1 left and that only about a handful.

Major Allen said that he was a new hand in the bee-keeping business, but what experience he had had led him to favor cellar wintering.

On motion, adjourned to 1:30 p. m.

AFTERNOON SESSION.

Comb Foundation and Its Uses.

Mr. Wm. Clement never thought bee-keeping an assured success until he commenced using foundation; at first it sagged, but he had obviated trouble on that score by manner of putting on; would not recommend filling an empty hive in readiness for a young swarm coming off naturally, on account of the bees clustering upon it and either sagging or pulling it entirely down; thought 75 cent's worth to each hive a very paying investment.

Extracted vs. Comb Honey.

Mr. A. N. VanCamp preferred the extracted to comb honey, for the reason that he did not like to be compelled to chew and digest beeswax; thought it the most profitable way to run an apiary for a large yield, and on the score of profit it had been satisfactorily demonstrated; great caution, however, was required to be used in not extracting unripe or uncapped honey, and by extracting so much as to rob the bees of their supply.

Mr. D. D. Palmer thought it best to consider the market and produce honey in the shape the place of sale demands; was certain that there was more money in extracted than in comb honey.

Artificial and Natural Swarming.

Mr. W. T. Kirk advocated dividing early, before queen cells are started.

Mr. D. D. Palmer said the wish of the owner must be considered. He would not divide until he had a queen raised, then make the division and introduce the queen.

Rev. Mr. Briggs and Mr. Wm. Clement each favored the convention wfth their way of dividing.

Mr. J. K. Brown preferred natural to artificial swarming; started last season with 50 colonies, permitted them to swarm once each only, and from each new colony got from 38 to 40 lbs. of surplus honey, and from each old one 2 or 3 times that quantity.

Process of Queen Rearing.

Rev. Mr. Briggs recommended rearing queens for the purpose of having them ready to introduce when dividing, and gave his plan of raising them.

Feeding in Early Spring.

Major Allen had had but little experience in that line; had seen Shuck's boss bee-feeder advertised, and sent for 4 to try them, but they set every other colony in his apiary on a "boss" robbing expedition. On being interrogated, he stated that he had placed them on the hive in the morning; he still believed in feeding, and the robbing might not have been the fault of the feeder. He used for feeding rye meal and honey.

Mr. Geo. Parks had done a good deal of feeding, but lacked sufficient experience to give any recommendations.

Mr. D. D. Palmer would not feed at all in spring, his locality did not require it, but what experience he had led him to the belief that his bees were Grahamites.

Mr. J. K. Brown had fed both honey and unbolted flour, and believed it beneficial.

Rev. Mr. Briggs would use Shuck's or any other bee-feeder in the night time; he believed in supplying pollen early artificially, to force breeding, which can be done by feeding a few pounds of flour daily; he recommended placing it behind the apiary and at a little distance, so as not to attract the attention of strange or robber bees in front of the hives in the apiary.

Does Bee-Keeping Pay Financially?

Mr. Marshall Farnsworth, on being called for, said he did not think it had with him, owing to his having lost 38 out of 40 colonies the past winter.

Mr. G. F. Brayton said that while he had lost 23 out of 30 colonies the past winter, he had still been the gainer, and did not feel like having the "blues" about it. In the way of gain, after the death of the bees, he had hives, honey and comb left him, which would sell for nearly as much as a live colony.

Rev. Mr. Briggs believed that they would pay not less than 100 per cent. annually on the amount invested.

Mr. D. D. Palmer, notwithstanding his unfavorable experience the past winter, considered bee-keeping profitable. Other members expressed the same opinion.

Adjourned to 8 o'clock p. m.

EVENING SESSION.

On reconvening, Rev. E. L. Briggs was introduced, and favored the convention with a very able address. (The address was published on page 318 in the June number of the AMERICAN BEE JOURNAL.—ED.)

After which Mr. Thos. G. Newman, of Chicago, editor of the AMERICAN BEE JOURNAL, was called upon for a few remarks. He said that if we were going to be successful in bee-keeping we must prepare ourselves therefor, as we would for anything else in which we might engage with a desire to be successful; he was surprised that with all the chances for improvement and advancement in bee-culture, that there are to-day so many professional bee-keepers yet in darkness. He believed that America had yet the task of producing the improved bee of the future, as in the past we have improved the stock of the old country, and as we are now shipping back to them, so would we at no distant day be furnishing the old country with an improved race of bees.

On motion, Mr. Newman was requested to address the convention at 11 o'clock a. m. the following day.

FRIDAY MORNING.

The President appointed Messrs. Parks, Lord and Coe a committee on finance.

A vote of thanks was tendered Rev. Mr. Briggs for his very able address of the previous evening.

Following which different members discussed the subjects of "Where and How shall we market our honey?" "In what ways can honey be used?" "Honey resources, and what shall we sow or plant for honey or fruit?"

When "What hive should we use?" was asked, it was unanimously answered, "A movable-comb bee hive, exactly or nearly like the Langstroth."

In response to "Should comb foundation be used in surplus boxes?" Mr. T. G. Newman promptly and emphatically answered, "No! except for starters."

Mr. Wm. Clement thought that "The cause of spring dwindling" could be to a great extent traced to and charged upon the hive used, and in his experience had prevented it wholly by using a double-walled hive, with the spaces filled with chaff, and a chaff cover to collect and absorb the moisture arising from the colony.

Mr. Wm. Townsend felt satisfied that it "Does pay to extract" in the increased amount of surplus received thereby, but it must be done judiciously.

Rev. Mr. Briggs recommended the extractor, as by its use the inclination to swarm was very largely prevented, and he preferred extracted to comb honey for his own use.

Mr. D. D. Palmer thought it was as much robbery now to take comb away from bees, as it was murder in the days of brimstone.

On "What causes abnormal swarming?" there seemed to be some difference of opinion which was left unsettled.

Mr. Wm. Clement thought that on the arrival of a nice warm day in early spring, the bees take a notion to have a jolly old-fashioned coming-out to such an extent that the queen is induced to follow, and on her arrival in their midst they unanimously vote a swarm on hand, and they accordingly swarm in regular old-fashioned style.

The President had had a case, and felt very much inclined to accept Mr. Clement's theory.

Rev. Mr. Briggs inquired if it might not possibly be that the queen had been taken sick and had voluntarily left the hive as do workers when they become sick, and the swarm followed.

Mr. W. S. Fultz thought not, as he had caught a small warm of that kind April 30th and placed them with their queen in a 5 lb. box, in which was worker comb, and in 4 or 5 days the queen commenced laying.

Eleven o'clock having arrived, Mr. Thos. G. Newman addressed the convention according to appointment, taking as his theme "The Marketing of Honey." He said to sell anything well it must be made attractive, therefore comb honey should be put up in small boxes (illustrated by a case of prize boxes) in single combs of 1, 1½ or 2 lbs. each. These should be assorted and labeled, but in no case should the best honey be put outside and the poor inside in order to deceive; this process he called "veneering." Extracted honey can be shipped in barrels waxed inside, or in 10 lb. crocks or tin cans. It is just as well to ship by freight as express, and thus save the enormous express charges. The manner of extracting honey was described; it should be extracted so as to save the comb; in no case extract before the honey is ripened, otherwise it will sour; whenever the bees cap the comb the honey is ripened; the caps should be carefully removed so as not to injure the comb (here he exhibited an uncapping knife of peculiar construction and described its use); do not use the old can revolver for extracting, there are newer and better processes. One objection to extracted honey is that purchasers fear it may be adulterated, but if it candies it is a sure sign that it is pure. He then described many new and useful purposes to which honey is being put, and referred to the adulteration of syrups now sold in the markets. He said hardly a drop of these syrups can be found that does not contain some death-dealing substance. The use of glucose for such adulteration and also for bee food was strongly condemned.

At the conclusion of the lecture a vote of thanks was given Mr. Newman and he was made an honorary member of this Association.

Mr. VanCamp having been called away to Tipton on important business, Mr. W. T. Kirk was chosen Secretary *pro tem.*

The following is a list of the members of the Muscatine District Association as signed to the constitution:

A. C. Drury, J. Piggott, A. N. VanCamp, J. P. Lewis, Lyman Allen, D. D. Palmer, M. Farnsworth, Wm. Clement, Jesse Bogart, W. P. Crawford, G. F. Bryton, Geo. Parks, E. L. Briggs, Lewis Coe, J. K. Brown, S. J. Sinnett, S. Y. Orr, R. Lord, Albert Littrel, F. M. Sissell, Daniel Shannon, C. F. Healey, J. L. Brown, W. S. Fultz, S. L. Foss, J. B. Lindle, T. G. Newman, A. Cockshoot, D. H. Westbrook, W. T. Kirk, E. F. Cassell, H. P. Jones, Thompson Boney, C. S. Barnard, D. R. Gilman, Chas. Page, C. Campbell, Malinda Westbrook, Isaac Mathewson.

At the afternoon session discussion took place as to the condition of the cellar to keep bees in winter, as to the time to cut out drone comb, and as to the purity of the Italian queen bee. The opinion seemed to prevail that there is considerable imposition in what are usually sold as Italian queens.

Measures were adopted for a creditable honey show at the next County Fair, and a premium of $5 is offered.

The time of next meeting is to be fixed by the executive committee.

A. N. VanCamp, *Sec.*

N. W. Ill. and S. W. Wis.

According to vote, the Northwestern Illinois and Southwestern Wisconsin Bee-Keepers' Association met at the residence of H. W. Lee, 2 miles northwest of Pecatonica. Mr. Lee being President, and one of the largest bee-keepers of the Association.

Many questions were asked, and answered by Messrs. Lee, Holly, Williams, Conkling, Whitlesy and others; some of whom have kept bees for 40 years or more. All were enthusiastic.

After a pleasant time looking at the President's 207 hives of beautiful Italian bees, and partaking of a bountiful meal, it was decided to adjourn. Owing to the rapid growth of the Association, a proposition was made and carried to make the next meeting a basket picnic, to be held at Shirland, Ill., on the last Tuesday in August.

The annual meeting will be held at Davis, Ill., on the second Tuesday of December, 1879. J. Stewart, *Sec.*

Rock Run, Ill., May 6, 1879.

Our Letter Box.

Lexington, Ky., July 5, 1879.

The honey crop in this section so far has been almost a failure. The locust-bloom honey is all we have had and that was of short duration; the white clover has been a failure, and there will be barely enough for home consumption. W. Williamson.

Pine Grove, Pa., June 9, 1879.

Inclosed you will find a bug or beetle that I found in a colony of bees. Please let me know of what species it is, and also if it does any harm to the bees. H. Stout.

[The insect is the common cockroach. They are sometimes quite a pest in houses, but are not in any way injurious to bees. A sugar-tooth probably induced him to enter the hive.—A. J. Cook.]

Monterey, Ill., June 12, 1879.

To fasten foundation to section boxes or to frames: Take a table-knife, break it in the middle; have a tumbler with honey in it; lay the foundation in the box or frame, dip your knife in the honey and give the foundation one stroke backwards and forwards, and it is as tight as wax.

John Bœrstler.

Quaker Springs, N. Y., June 10, 1879.

We are having a bad season for bees here so far; it is very cold and dry, and there is but little for bees to work on. I wintered in the cellar 65 colonies, which came out apparently in good condition. I have since lost 8; they were not so strong and others robbed them. I have sold some and have 40 colonies left, all in movable frame hives of the Langstroth pattern. They are doing very well for this season; have no swarms, and some are at work in surplus boxes.

A. Reynolds.

Jonesboro, Ill., June 21, 1879.

To-day I send you an insect which I captured while sucking the blood of a bee. I could find but the one; will send you more as soon as I find them. W. J. Willard.

[This is Phymata erosa, fully described and illustrated in "Manual of the Apiary," Vol. 4, p. 293.—A. J. Cook.]

San Bernardino, Cal., June 8, 1879.

We are having an exceedingly cold, dry season. No honey to speak of in the flowers, and no prospect for any surplus this year. In the valley below us bees are reported as already starving. Your Eastern apiarists need not fear any competition from California honey this year, and I hope they will avail themselves of the favorable opportunity to advance the price of honey. May your valuable Journal receive the success it so highly merits.

A. W. Hale.

Henry, Ill., July 6, 1879.

A good word for the bees once more,—they are capping honey lively. I have 226 colonies of bees, of which 68 are new ones. I have had over 200 swarms already. How should queens be shipped long distances? Should they have comb honey or artificial food? I had 2 queens shipped from Georgia, with artificial food given them; when they arrived the bees were nearly all dead, and the survivors died in a short time afterward. Otto Halblieb.

[Much difference of opinion exists as to the best food, and many ways of preparing queens are practiced. Our experience leads us to favor artificial food for shipping long distances in hot weather. Honey is objectionable in warm weather, as the queen and bees are liable to become more or less daubed, then exhaust themselves in their efforts to get cleaned. With good A sugar or candied honey in a roomy cage, accompanied by 20 to 50 workers, with a vial filled with water and slit in cork, or sponge saturated and placed where it will not dampen the food, queens can be shipped to California with little risk. If honey is used, we prefer a cage large enough to contain a piece of honey well capped, and so secured as to be stationary.—Ed.]

Boscobel, Wis., June 13, 1879.

My bees are doing the best that I ever had them so far. If favorable weather continues throughout July and August we will get the best crop of honey ever known here. I had splendid luck in wintering; only lost one, which must have been queenless in the fall. Am keeping them down all I can, so as to get honey. Sometimes they swarm at the rate of 5 in 15 minutes. It is just fun to hive 2 or 3 swarms in one hive. They fill a double story hive, 2 ft. 1 in. high, 1 ft. wide, and 19½ in. long, inside measurement, full of bees from top to bottom.

Edwin Pike.

Washington, Iowa, July 5, 1879.

Bees are doing finely here now; much interest is being taken in that direction. Considerable loss last winter, mostly by wintering on summer stands. The white clover season has been extra good, and there is still plenty of clover. Mostly black bees are kept here, though many wish to Italianize. We contemplate holding a bee convention at Washington in August or September. Many are using old-fashioned boxes, believing them the best and cheapest.

J. R. Crumpacker.

Vandalia, Mich., July 9, 1879.

The poorest half our bees died in the winter and spring. Four-fifths of the bees in this locality died; men owning from 3 to 10 colonies, in box and movable-comb hive alike, generally lost all or all but 1 or 2. The most successful wintering that we are aware of, was where 65 colonies were in box hives on summer stands, with no protection except that the caps were filled with straw, and a hole bored through the side of the cap. All but 3 colonies came through all right; these starved, being late swarms. We got surplus between the 10th and 29th of June. Catnip yields well. How can we stop swarms that are "going over," flying low and slow? C. F. & F. Smith.

[There are several methods, each of which is practiced more or less extensively, viz: 1st. By throwing water pretty freely among them, when the bees will generally "settle" on the first object convenient. 2d. By the use of a looking-glass, flashing the reflection rapidly among the bees, then throwing it steadily upon a green shrub or limb of a tree. 3d. Many use a shot-gun or musket, discharing a blank cartridge among them, when over a suitable place for the swarm to alight. Many other methods are in vogue, each of which has more or less advocates. —Ed.]

Oneida, Knox Co., Ill., June 16, 1879.

After writing to you last April I lost 1 colony out of 32 last fall. My bees are doing splendid; nearly a bushel of bees in some hives working vigorously in sections, and I am nearly as busy putting on and taking off sections, one crate of sections above another, tiering them up and spreading the brood to keep them from swarming. I think bees can be kept from swarming by putting empty combs or foundation between the sheets of brood, and not interfere materially with their prosperity. I differ somewhat from friend Dadant on "Abnormal Swarming," or I do not fully comprehend him. His summing up leaves the bees in a perfectly natural, healthy, prosperous and vigorous condition. I believe bees swarm in compliance with the great divine command—"Go forth, multiply and replenish," and not from uneasiness, and unless some natural law is violated they will swarm. The plan that least interferes with their prosperity is the best, and, in my experience, spreading the brood 10 days before they take the swarming fever, or as soon as they commence queen cells, will usually keep them from swarming. A good way is to raise a sheet of brood covered with bees up between two crates of sections, thus bringing the open ends of the sections close to the brood, and the bees readily and naturally take to the sections with starters, and seem to work as vigorously as though nothing had happened. A. Reynolds.

Brooklyn, N. Y., June, 1879.

Please describe the within in the next American Bee Journal. I found him near the hive with his victim in his mouth.

A. Van Derwerken.

[This is not an insect at all, but a very handsome black spider. Insects have 6 legs, spiders 8; insects have 3 divisions to the body—head, thorax and abdomen, spiders have but 2—cephalothorax and abdomen; insects have compound eyes, spiders simple eyes; insects have antennæ, spiders do not; insects undergo striking transformations, spiders do not. A baby spider looks every whit a spider, not so with insects. The spider sent by Mr. Van D. is coal black, with a conspicuous white triangular spot on the middle of its abdomen, the apex of which is toward the cephalothorax. Two white [crescents,] one on each side, appear about one-third of the distance from the spot to the tip of the abdomen. Midway between the crescents and the tip are two white dots, one on each side. Beneath the abdomen and along the legs are some gray hairs. A fine row of white hairs deck the anterior edge of the dorsal surface of the abdomen. The four simple eyes form a crescent-shaped row, and look like jets in a black setting. The two central eyes are the larger. Beneath the eyes the brilliant green jaws are plainly visible. From my observation I think we may have little fear of spiders, if we keep all webs removed from the hive.—A. J. Cook.]

Lewistown, Md., June 16, 1879.

The season has been very backward. Bees did not get an early start, and did not do much till the cherries blossomed, and gathered very little from the peach or apple. We had a good flow of honey from the locusts and poplar; white clover is quite plentiful. Mr. D. A. Pike said he had drones April 6th, and wants to know who can beat it in this latitude with imported queens. We had drones from an imported queen March 10. As a general thing home-bred queens will not rear drones earlier in this latitude than imported. If my golden strain of Italians were to rear drones sooner in the season than my imported queens, I would soon commence to pull their heads off as a run-out strain. But as I am breeding for improvement, I have no fear of it. He also says his imported colonies were from 15 to 18 days behind, and they were behind last year in swarming and honey gathering. Having received queens direct from Italy, I have had considerable experience with imported stock along-side of my improved strain that produce drones with three bands or as beautiful in their marking as the worker, so without prejudice to either strain, I find that the home-bred stock produce a little larger worker, and that they are hardier and winter better. But as regards other good qualities, they are no better than the imported stock. I mean good imported, as some imported queens that are sold in this country are not worth introducing. If I desired early drones and swarms I would breed in and in, and by so doing would produce a short-lived strain of bees that would rear drones very early in the season, and supersede their queens and swarm. This is not theory, as I know it to be the case in this county with small bee-keepers. J. M. C. TAYLOR.

Wilmington, N. C., June 10, 1879.

This morning I found 7 of the inclosed insects upon a chinquapin tree, and they had captured a honey bee and were all around him upon a leaf, and each had his bill fixed in some part of the bee's body. Their bill is nearly or full one-fourth of an inch long, and apparently very sharp, as they could push it into the carcass without the least trouble. I inclose them (2 alive) and put in a drone and worker bee for their "support" on the trip. I would be glad to hear from you through the AMERICAN BEE JOURNAL or *Gleanings* or both, upon this insect, which is a curious-looking and very lively one. R. C. TAYLOR.

[This enemy of the bee is an immature bug, probably Stivetrus diana, though I cannot be sure without seeing the mature insect. As will be seen, it is closely related to the Phymata erosa, described and illustrated in appendix of fourth edition of my Manual, page 293; though as it does not practice the concealment of the latter, it cannot be so much of an enemy. I presume it will not do serious harm. I should be glad of the mature insects, if Mr. Taylor will be so kind as to send them.—A. J. COOK.]

Trevose, Pa., June, 1879.

There has been some speculation in the columns of the AMERICAN BEE JOURNAL at times as to whether the bees ever remove eggs from one cell to another. A curious case occurred with me a good many years ago, say 15, when I was experimenting in queens more extensively than I am now. In going my rounds one day I found a nucleus box that had been overlooked. It contained no queen and no eggs or brood of any description. The nucleus still being in good condition, I immediately introduced a young and fertile queen and she was well received. Examining the nucleus a few hours afterward, I found the bees had changed their minds and were proceeding to make short work of her majesty. I removed her, but forget her fate. As soon as I could make it convenient, say within a few hours, I proceeded to examine the nucleus to see if I could discover any cause for their strange behavior. I then found a queen cell just started and containing an egg, and it was the only one in the box. I have never been able to explain this quite satisfactorily to myself. I have always thought that the queen I introduced certainly laid that egg, and as certainly did not lay it in a queen cell. C. W. TAYLOR.

Springfield, Ill., July 5, 1879.

What can the matter be ? I have 37 colonies and have had but 1 swarm during the season. Have made no swarms for fear of a failure in the fertilization of the queen, as there are no drones flying. What does all this mean ? It is common throughout the country, so far as I can learn. Bees have done well storing honey. A. J. KANE.

[Without more light on the subject, your question is a poser. Your colonies may have dwindled in spring and hardly become crowded before honey-flow set in vigorously, when the bees had no time or inclination to prepare for swarming. With your number of colonies, if strong, you would have found provision made for drones in case you had divided or practiced artificial swarming. It is sometimes marvelous how soon a strong colony, if deprived of their queen for the purpose of starting queen-cells, will develop a host of drones.—ED.]

Martinsburg, Mo., June 27, 1879.

We have had a very dry spring with some cool days and nights, and on this account bees have done but little in the way of storing honey—consumed it as fast as brought in. I have been compelled to feed some of the weaker colonies, though apparently they have increased in number of brood as fast as when storing an abundance of honey, and this is the report of all with whom I have talked. The drouth killed the white clover, so it furnished but little pasture until after the 15th of June, and since that time it has been too wet for bees to work more than about half of each day. There has not been more than half a dozen swarms so far as I can learn. E. R. DOUGLASS.

Cedar Rapids, Iowa, June 14, 1879.

How is this for wintering bees out on the prairie, without as much protection as even a wire fence : A friend of mine wishing to get some honey in sections purchased 8 sets of me for the Langstroth hive, then paid me for putting them on his hives. About June 1st I went to his farm, about 2 miles from my ranch. Everything around his place was a model of neatness, except around his bees which were almost hid by weeds. He said he had tried to mow the weeds down, but the bees always chased him away, so he gave it up. Some of the hives were in good shape, others almost rotten. We commenced to examine and put on sections, and found all in the best of shape: in fact, good as my best that were wintered in the cellar and had the best of care. Except moths, which were without number in every crack and place that they could hide in, some were already working in the caps. He said he had lost 2 out of 11, and they were second swarms and probably starved. After we had looked over eight colonies, he said there was another colony somewhere; found them hived in a berry crate with lath nailed over the cracks, sitting on the bare ground and had been all winter, and were just ready to swarm. All of the 8 colonies had been affected more or less with dysentery, yet not one of them died. His bees are black and mine Italians. I lost 7 out of 70 colonies wintered in the best kind of a cellar. Bees are doing well here now.

T. B. Quinlan.

Santa Ana, Cal., June 12, 1879.

I send you the terminal or superior portion of the flower-stalk of the plant universally known in Southern California as the "white sage"; also the terminal extremity of the flower-stem or foot-stalk as existing previous to shooting forth into bloom. If the specimen sent will enable you to determine the Linnæan family of the plant, I, and doubtless many of your readers, would be gratified to know the place which it occupies in the Linnæan classification. When springing forth from the soil the first year it strongly resembles the horsemint of the Atlantic seaboard and Mississippi valley, and indeed when full grown from a root of many years' standing, with its 50 or 100 flower-stalks, it appears to the eye of an immigrant from the older States as nothing more than a gigantic horsemint, though its flower-stalks tower sometimes to the height of 10 or 12 feet. Its habitat extends over the counties of Ventura, Los Angeles, San Bernardino and San Diego, and how much farther I do not know. It is now in full bloom. The plant correctly delineated in the December number of the Journal and properly described in Prof. Cook's Manual as pertaining to the Salvia family, is the black sage as asseverated by your correspondent from Los Angeles, in the June number. The bee-men in the mountains here are moving their bees into the cultivated plain bordering the ocean, in order to avoid the drouth, many of their bees having died of famine. In many canyons in the mountains (coast range) the black and white sage bloomed liberally, but the foggy mornings and cool nights, even up to the time of my writing, have prevented the Italians (who reap any considerable harvest from the black sage) from making even a support. The misfortune of the apiculturists of Southern California in the year 1877 it seems will be repeated, though I trust in a milder form. Thos. S. Fraser.

[Prof. Beal kindly informs me that the plant sent is Audibertia incana. But I find in a description in United States Report of 40th parallel, Vol. 5, Botany p. 236, that A. incana grows from 6 to 18 inches high, while Mr. Fraser says that the one he sends grows 13 feet high. The same volume, p. 292, describes white sage under the name Eurotia lanata, but states that it grows only a few inches high. The author says it is good for cattle, and is often called fat weed. Will not some of our California apiarists send to me specimens of fat-weed and black sage, that we may get the names of these plants settled? Common names are very uncertain. Let us learn what the white sage of the bee-keepers is.—A. J. Cook.]

Wilton Junction, Iowa, June 23, 1879.

Bees in this locality the past winter have at least one-half winter-killed, but the prospects are now flattering, swarms being earlier very much than last year and storing surplus extensively. I tried a little experiment last Friday which was new to me. The queen in No. 4 had become crippled so as to refuse to come off with the swarm on two different days previous, and combs being crooked I could not divide very easily. In the morning I removed from a nucleus a young fertilized queen that had been laying a few days, with her accompanying bees and 3 frames, into an old hive, No. 24, with alternate frames with small strips of foundation in readiness for my artificial swarm. Just before 12 o'clock off they came; I watched the entrance, and was convinced my queen came out; then removed No. 4 and placed 24 in its place, and inside of half an hour had all of the new swarm in 24, except a few bees that went into one or two very closely adjoining hives. I was fearful for the life of my young queen, but on examination this morning found her in full possession and depositing eggs as though she had had no illegitimate accession to her family.

A. N. VanCamp.

Saltville, Va., June 12, 1879.

I send to-day a specimen of an insect that is quite common here. It is usually found about the hives on empty combs or on the quilts. It is very active, runs with surprising swiftness, and hides at the least appearance of danger. I have not been able to discover that it does harm to either bees or comb, but conclude it takes shelter in the hives merely to find a comfortable home. Please inform us as to its mission. Is it a friend or an enemy to the bee-keeper?

G. B. Seely.

[This is also the common cockroach. This one is Periplaneata Americana. It does no harm to the bees, but finds about empty hives a snug resort.—A. J. Cook.]

Lincoln, Tenn., July 7, 1879.

Since the great storm, on the night of April 23, 1878, bee-keeping has not been so profitable in this part of the country. Five-sixths of the poplar trees were blown down on that memorable night, and that being our best source for honey, it has in consequence been considerably damaged. Last winter was very severe on bees in this locality. In the spring I only had 44 colonies left out of about 90. I left them all on the summer stands, and whole colonies were frozen ; others greatly reduced in numbers. Of the 44 left I made 28 strong colonies, saving the queens of the other 16 with what bees would adhere to the combs. As I had plenty of extra combs, I would give to these weak ones as they needed it until swarming commenced, when I would take a queen from one of them and give to a swarm, putting the old queen back in the hive she came from. After giving a queen from one of these weak colonies, I would insert a queen cell and raise another. In this way I have increased to 92 colonies ; nearly all of which are well filled with bees. After using up all my extra combs, I had recourse to comb foundation, and my experience is that foundation is better than combs, at least the swarms to which I gave it have done better than those given combs. I have taken 1,965 lbs. of extracted honey—none in the combs ; 800 of this is poplar, the rest sour-wood, and is very nice. The sour-wood season is nearly over, and the probability is I have taken all I will get this year. J. F. Montgomery.

Mansfield, Pa., July 7, 1879.

Having just commenced bee-culture, and wishing to make it as profitable as possible, I wish to find through the Journal the best and most practicable hive. Like all other machinery, I suppose there are several first-class hives. I am now using N. C. Mitchell's adjustable hive for which I paid $5 for a farm right, and have since been told that I was swindled out of so much money and should conclude that I was, from the reading of the last Journal. One of my neighbors sent a Mrs. E. Cotton money for one of her controllable hives and method of handling bees last April, and hears nothing from his money or the hive that bees make such an immense quantity of honey in. She is now put down by him as a humbug and a swindler. The information that I have received through the American Bee Journal has been of great advantage to me thus far, and I can recommend it to all bee-keepers. H. C. Bailey.

[There are several good hives in the market, either of which can be used with profit in the hands of skillful apiarists. As much depends upon location, quality of bees, and skill of the bee-master, as the peculiar construction of hive. For all purposes, we think the Langstroth hive far the best.—Ed.]

Woodman, Wis., June 24, 1879.

In regard to the patent atmospheric bee-feeders, I saw one in Scotland in 1858. made somewhat in this shape : The upriget part is a tin can about the quart size and shape of an oyster can. The lower horizontal piece is a small flat tin pan about 3/8 of an inch deep, and soldered to the lower front side of the upright piece, which has an opening cut away in front the full width of the can on the lower edge of the can and opening out in the can underneath; the opening is about 1/4 in. deep. When the can was filled it was tipped back, and the feed poured in from the bottom and fed to the bees by shoving the lower pan into the opening in front of the hive; and the feed would not run out any faster than the bees could take it away, as the can is air-tight on top and as the pan filled the entrance to the hive, robber bees could not get in the hive or to the feed. An old oyster can will make a good feeder. I write this to show that I do not think any man can get a patent on an atmospheric bee-feeder as a new principle, as it was patented 20 years ago. Bees are doing splendid now. John Murray.

Valley Station, Ky., July 5, 1879.

I send you a few leaves of a small bush or weed. It grows among the rocks on the walks around the pork house in Louisville ; the bees are now on it from early morn till late in the evening. Only one place where it is found ; only one house where it grows. It has a sweet scent, and has been in bloom for more than 4 weeks ; it keeps blooming as it grows in height, some of it is now about 3 ft. high, and keeps branching out and blooming. From the stalk at the ground many branch out, and it appears to flourish almost on the naked rocks. It may be the Rocky Mountain bee-plant or mignonette, as the seed you sent me never came up, consequently I never saw any.

[I presume, without much doubt, that the plant is sweet clover or melilot, though a piece of stem a few inches long, with not a single flower, is never sufficient to enable an accurate determination.

Our teasel bed is now in bloom, and covered with bees the day through. It commenced to bloom a week before basswood. I have never known a year when the latter (basswood) has been so loaded with flowers. Even small trees are crowded with bloom, and the odor along the forest for miles is like that of a room full of tube roses.

Rocky Mountain bee-plant, *Cleome integrifolia*, should be planted in autumn. Spring-sown seed will generally fail, unless the season is very wet. This is a very important fact.—A. J. Cook.]

St. Joseph, Mo., June 28, 1879.

I was taken with the bee fever last summer, and in consequence purchased 9 hives of bees—a dead-sure moth-miller trap and a patent for a hive. All I lacked was 100 hives of bees fixed with a moth-trap near each hive and my fortune was made. The railroad companies would each run a track to my apiary for the sake of getting my patronage, and Europe would furnish me a market. The dead-sure moth-miller trap was tried faithfully on one of my best hives. Result : Moths killed the bees, and I burned the hives out to kill the moths. I never tried it again. I have on hand 4 colonies of black bees and 1 nucleus of Italians in movable-frame hives, and 6 empty hives ; outlay $46.20, income nothing. I subscribed for the Journal, with the hope of finding something in it to help me out of my dilemma. I read the June number through twice, advertisements and all, and it just ruined my prospective fortune; my fever is broken; I could not expect to succeed in a business, without capital, where so many have failed. I wish to make the best of a bad bargain, and hope, with the assistance of your valuable paper, to Italianize my black bees and fill my empty hives with Italians. Is it too late to form nuclei in my empty hives and build up to full colonies before winter, with buckwheat plenty?

St. Joe.

[With buckwheat and fall flowers in profusion, it is not too late to build up strong nuclei into good colonies, by a judicious use of foundation or empty combs.—Ed.]

Fowler, Ill., June 7, 1879.

Bees in this locality are doing well, and have been ever since the white clover commenced to bloom, which was the first week in June.

E. A. Davis.

Barnesville, Iowa, June 24, 1879.

Can you tell us what authority there is for the use of the word Linn instead of Linden or basswood? I cannot find Linn in any dictionary or book of botany, or bee manual that I have ever seen. I first noticed it in that remarkable and remarkably well-written work of fiction, "The Blessed Bees." In my opinion the author would remove a blemish, from an otherwise beautiful book, by putting Lindenwick for Linnswick and Linden for Linn. Linden is one of the most beautiful words in our language.

G. M. Porter.

Virgil City, Mo., July 5, 1879.

My experience here in Missouri reaches over a term of 10 years, and I have had as perfect success in wintering as any person could wish for. In the fall when they are overhauled and prepared for winter, I count my number of colonies just as confidently as though it were the next April or May. As many of the readers know, I use the Langstroth hive, and winter on summer stands, with no outside protection. In the fall when the honey season is over, I want the colonies to have the following requisites: Top story or honey receptacles taken off, and an abundance of bees in accordance to size of chamber. If the chamber is small, or even a common size, I want it crowded with bees, and if the bees can be bred in the fall by having young queens or feeding, all the better; they must have plenty of honey; do not be afraid to have a good supply left over for spring use. Right here I will digress from my subject a little and say I think a good plan to prevent spring disasters is to have plenty of honey, plenty of bees, clean combs and chamber, good queen, and a reasonable portion of pollen. I make a ½ or ¾ in. hole through the center of each comb; those combs that are partly drone cells or filled solid with honey I put on the outside of brood-nest next to the walls of hives; those combs having most empty cells or uncapped honey or young bees I place in middle of cluster. I winter nucleus colonies with 2 or 3 frames by filling them chock full of bees, and following the above plan. If some of my colonies are not strong enough to suit me, towards fall I divide the bees around, breed them up or double up until I get them to suit. My bees always gather too much pollen, and I often cut out nearly whole sheets of comb to get rid of it. I never need to feed any artificial pollen here. Under certain circumstances I sometimes exchange combs with some colonies in order to supply pollen. In this section of country I think the Langstroth frame the best that can be used. I use the Langstroth hive very much modified and cheapened in construction.

E. Liston.

Union Valley, Mo., June 23, 1879.

I send you a great long-tailed something or other which I caught in the edge of the timber, where it (the timber) had been cleared off. As it is the only insect of the kind I have ever seen, I would like to know something or all about it. I was suspicious of its being poisonous, and somewhat tore its wings in capturing it. You will confer a favor on me by sending a description of its habits, etc.

W. Jessup Skidmore.

[This is Rhyssa lunator, one of the Ichneumon flies referred to in the Manual, p. 33. The long tail-like organs are their augers, by which they bore into wood and thus deposit their eggs in the larvæ of other insects, which latter are eaten up by the larvæ which hatch from the eggs. The Ichneumon flies are entirely harmless, and do much good in destroying other insects.—A. J. Cook.]

Kewaskum, Wis., June 27, 1879.

Bees are doing well. White clover is two weeks earlier than usual and yields abundantly. Basswood is plentiful and promises a good honey harvest, if there is no extreme heat or heavy thunder showers during its blossoming.

Miller & Hollom.

Mt. Pleasant, Iowa, June 30, 1879.

Bees in this locality are doing very well. We have organized a Bee-Keepers' Association here named the "Southeastern Iowa Association." We have had several meetings, and it is a success. After paying all our expenses we still have a surplus of $12 in the treasury. The next meeting will be on Saturday. Aug. 3d, at Mt. Pleasant.

J. A. Thomas.

Reynoldsburg, O,, July 7, 1879.

I have 38 colonies in the adjustable bee hive; I like it the best of any hive I ever used, having used the Langstroth, Leaf, American, Grant, and several other kinds, but prefer the one in use now, but don't condemn the others. In reference to N. C. Mitchell, I can say I have purchased queens of him, and was well pleased. I think he is a gentleman in every respect. I think the cause of so heavy a loss in bees last winter was the cider and other impure honey, which was not capped. I think all such should be extracted in the fall. Bees are doing well here now.

S. M. Oldham.

Versailles, Ky., July 12, 1879.

On the 30th of June I swarmed a colony of black bees by the exchange method, using a nucleus with a young Italian queen to make the exchange. Two days after the swarming, I noticed a ball of bees on the ground in front of the hive of blacks, and on opening it found a black queen nearly smothered, and she died finally in a short time. Thinking the bees had merely destroyed a queen cell in the hive and carried the queen out, I thought no more about it until yesterday, when looking through the hive I espied a large fine Italian queen. About that time I lost an Italian queen from a nucleus, about 8 feet from where the colony of blacks stood, and thought she was lost on her marriage flight. Can it be that she entered the wrong hive on her return, killed the black queen and took possession :

R. W. KEENE, M. D.

[Yes, it is probable the young Italian queen you mention mistook the hive and entered it. We have heard of several instances of the kind. Virgin queens are frequently very hasty in "marking" the location of their homes, and seeing but few bees flying from the nuclei, are easily misled.—ED.]

Waveland, Ind., July 16, 1879.

About half a crop of honey in this county (Montgomery) ; increase by natural swarming about one-fifth. PETER JAMES.

Libertyville, Mo., July 14, 1879.

On page 355, October number, 1878, AMERICAN BEE JOURNAL, I said that I had 64 colonies of bees, but as I sold 58 colonies in November, only had 6 left, which I brought through the disastrous winter, and when fall comes I may give you a report from those. There is but little honey being gathered now, as white clover has disappeared. I am greatly interested in your correspondence department, especially the letters from Messrs. Heddon and Doolittle. Success to the ever-improving AMERICAN BEE JOURNAL. J. B. DINES.

Crown City, O., July 15, 1879.

I have 100 colonies of bees, Italians and blacks. Swarming was almost a failure with bees kept in this county. I had 2 natural and 38 artificial ; 30 of my best colonies I never divided, as they were doing so well in storing surplus honey. My bees are very strong, and nearly all have young queens as I have been slaughtering the old ones. Hail thumping so frequently on hives in the Northern States, I think is the cause of many colonies becoming diseased ; being so frequently confused by hail causes them to consume too much honey, and in many cases the late-gathered honey, as many Western bee-men use the extractor freely and in many cases too much so in early gathered honey. It is my opinion that early gathered honey is the best to winter on. By my plan of wintering, I never dream of losing a colony. Honey will not be one-third of a crop hereabouts ; very dry. With a "tip of my 5c. bee-hat," will say success to the JOURNAL.

C. S. NEWSOM.

Ontario, Canada, July, 1879.

For wintering bees, extracting and keeping honey, I have built a house with concrete walls on a stone foundation, with a space of 2 inches between the walls and the inside plastering. But I find as soon as the door and windows are shut that it is very damp ; so damp, indeed, that a cloth hung in it soon becomes moldy. I have a hole in the wall, just above the ground, and holes in the ceiling into the room above, but find I cannot leave them open in winter as they would admit frost, nor do I think if they could be left open that they would be of much use. I shall feel obliged for any information that will enable me to get rid of the dampness. W. P. T.

Lawson, Mo., July 12, 1879.

Please give names of the inclosed flowers. No. 1 grows about 15 in. high on the prairies and seems to secrete plenty of honey. No. 2 grows on the prairie, and the bees fairly swarm around a patch of it. It is not as plenty as No. 1. No. 3 grows along small streams, and is a favorite with bees.

J. L. SMITH.

[Prof. Beal has kindly given me aid in determining the plants sent by Mr. J. L. Smith :

No. 1 is a mountain mint or basil, (*Picnanthemum lanceolatum*). Though it has somewhat the habit of the bonesets, the form of the flower and the peculiar glands of the leaves show its relation to the mints. The mint family may well be said to rival the composite family for its numerous and valuable honey plants.

No. 2 is Culver's root (*Seronica virginica*). This is a Scrophulariacious plant, hence a near relative of the mullein and famous Figwort-Scrophularia nodosa.

No. 3 is wood sage (*Teucrium canadense*). This is also a mint. I have received it before, accompanied with similar praise.—A. J. COOK.]

Neosho Rapids, Kan., July 11, 1879.

About 50 per cent. of the bees in this locality died last winter. I have not been in the bee business very long, commencing 3 years ago with 2 colonies, and last fall had increased to 21 colonies by natural swarming. I put them all under a shed but 1 colony, which I left on the summer stand ; it wintered all right. Those in the shed appeared to mix up with each other in February, when they had their first flight. In a few days after I found several dead queens on the bottom boards, and had but few bees left in those hives. They had plenty of honey. When spring came I had 9 strong colonies and 1 weak one. I had 5 new swarms about the 1st of May, and others about ready to swarm killed off their drones and have refused to swarm yet on account of dry weather ; but we have had plenty of rain since the 20th of June. I now have 15 strong colonies, mostly Italians. I have about 1½ acres of buckwheat, which has

been in full bloom for 2 weeks; it is covered with bees in the forenoon. Crops never looked better at this season of the year. I intend to give more attention to my bees hereafter. I am glad to hear from bee-keeping friends through the JOURNAL, which I read with the greatest pleasure.
N. DAVIS.

Houston, Minn., July 15, 1879.
I have been a constant reader of the AMERICAN BEE JOURNAL for more than half a dozen years, and it has brought me through the mysteries of bee-keeping better than all other instructions I have ever had; I could not afford to be without it for $50 a year. I have thought of many things that I wanted to ask through its columns, but before I could get the time another had done so and some one had answered the question, and I had the necessary instruction. But there are two questions upon which I would like further instruction: 1st. How shall I prevent my bees from bringing in more pollen than they can use? 2d. What shall I do with the surplus already in the combs? I have 70 colonies in Langstroth hives, with frames 8x18 in. inside measure; 9 frames in lower story, 8 in the surplus department, all the same size with cap large enough to cover the whole, so that I can use any frame in the apiary in any surplus department or brood chamber of any hive and exchange in any way that I wish to. I think that I have taken out 300 lbs. or more of pollen this summer, a part of which I have made into wax; and am finding more every day. I think there is a larger percentage of pollen in queenless colonies than any other; but it is not altogether with queenless colonies. I opened one to-day that had a super with 8 frames of old comb for extracting, and under the super 24 small boxes. Upon examination, I found the combs in the brood department about one-third full of capped honey, about one-fourth full of brood, and the balance filled with pollen. The super contained 3 combs, partly filled with brood; one of which contained the queen, the balance with honey, and 5 combs filled with capped honey, and the bees were working in the boxes.
NELSON PERKINS.

[1. We know of no way to prevent their gathering and storing pollen.

2. If there is more pollen than may be wanted for fall, winter and spring use, you can only cut out the combs in which it is stored and extract the wax, or save for future use. In this latitude we have never heard complaints of too much pollen; in fact, we find it necessary each spring to supply artificial pollen. Perhaps some of our readers, who have had a like experience with yourself, can suggest a remedy. —ED.]

Colfax, La., July 16, 1879.
I now have 18 colonies of Italians in fine condition. I started with 4. Three out of 14 young queens fertilized wrong; these I expect to remove this fall. I want to increase to 75 next year, and expect to get all of my supplies from you, as I am very much pleased with everything I have purchased from you.
JAMES A. DANIEL.

Ripon, Wis., July 22, 1879.
Our bees came to a perfect standstill July 15th; no work since. Our white clover bloom was very good for two weeks. The extreme heat caught the basswood in full bloom, drying it up in 4 days, closing out the clover at the same time. Our white honey crop will be very short. R. DART.

Port Elgin, Ontario, July 16, 1879.
Would you kindly let me know in your next number, or write me a few directions how to preserve fruit with honey, as described in a late number of the JOURNDL? I filled a jar with fruit and then put in extracted honey, as much as it would hold, but somehow after 2 weeks I find fermentation has commenced with it. Should fruit be scalded or put it just as pulled fresh? A few plain instructions in some way would much oblige, for if I knew the proper way, far more honey could be sold, and no doubt others would be benefitted as well as myself.
SOLOMON BRICKER.

[On pages 18 and 19, "Honey as Food and Medicine," we find the following instructions for preserving with honey.—ED.]

GRAPES PRESERVED WITH HONEY.—Take 7 lbs. of sound grapes on the stem, the branches as perfect as possible, pack them snugly, without breaking, in a stone jar. Make a syrup of 4 lbs. of honey, 1 pint good vinegar, with cloves and cinnamon to suit (about 3 ounces of each); boil well together for 20 minutes, skim well, then turn boiling hot over the grapes, and seal immediately. They will keep for years, if you wish, and are exceedingly nice. Apples, peaches and plums may be done in this way.

HONEY PRESERVES.—All kinds of fruit made into jam, with honey instead of sugar are nice. "Butter" made with extracted honey is much nicer than when made with sugar. For grapes, pick from the stem and pack into a jar until it is full, then turn cold honey over them until they are covered well. Seal up without any heat, and keep in a cool place. After a few months they will be found to be delicious.

Nashville, Tenn., July 17, 1879.
I went into winter quarters with 50 colonies of bees; came out in the spring minus 1, and 4 queenless. I commenced feeding the first of March, and fed 200 lbs. of honey and 200 lbs. of granulated sugar; I fed until the first of May, when the poplar began to bloom, of which my bees got full advantage. The white clover, our main source for nice honey, was a complete failure on account of the dry weather we had in April and May. It is very dry here now. I had only 3 colonies to swarm; took 700 lbs. surplus honey, mostly poplar. My hybrids gathered some very nice honey from red clover. Honey is worth 20c per lb. retail and 15c wholesale. I got 5 or 6 times as much honey in proportion to the number of colonies as any one else. Which is the best way to keep comb

honey through the summer? My honey is made on frames that average nearly 3 lbs. to the frame. The bees in filling these frames, sometimes put in from 1 to 20 or more cells of bee bread, and when the honey is stored the moth is certain to hatch in these cells first. I think the eggs are carried from the flowers in the pollen. I keep all my honey, when taken from the hive, where the miller cannot get to it; even then they hatch in the very nicest and purest honey. I have put some pure white pieces of comb in a candy jar, and sealed it tight, taking care not to let it remain, when taken from the hive, where the miller could deposit eggs in it, and a moth hatched in it and grew one inch long before I knew it.

H. W. ROOP.

[To destroy the bee-moth, we would suggest a thorough fumigation with sulphur, as recommended by Mr. G. M. Doolittle, on page 303, July number AMERICAN BEE JOURNAL.—ED.]

Saratoga Springs, N. Y., July 19, 1879.

PROF. A. J. COOK:—Do bees injure buckwheat? I have 140 colonies, and some of my neighbors think that my bees injure their buckwheat. Please answer in AMERICAN BEE JOURNAL. S. RUGGLES.

[Bees are never injurious to any plant, while gathering nectar or pollen from its flowers. On the other hand, it is fully proved that by aiding in fertilization and cross-fertilization they are often of great benefit to the plants. Therefore, I answer with great emphasis, that your bees benefit your neighbors' crops.—A. J. COOK.]

Wilmington, N. C., July 8, 1879.

An old bee-man, 2 miles from me, has albino bee upon the brain, and he has it bad! He swears by them; no other bee ever was or ever can be as good as the albino. He visited me, looked at my Italians—I bought my queens from Dr. Brown, of Augusta, Ga. He at once pronounced my bees poor hybrids. Three weeks after he came again, looked at my bees, and seeing many young ones that have the white stripes around the lower extremities of the abdomen, declared, without any hesitation, that the queens I have had been refertilized, and had met his albino drones! It was useless to expostulate or try to explain anything to him. He declared, with blood in his eye, while the perspiration protruded from every pore, "That he had been in the bee business 22 years, that he knew more about bees than any man who ever wrote for or edited a bee-paper," etc., etc. He is a box-hive man, I am happy to say. Will you please tell me in the JOURNAL for August what you think of the albino? Is she not a myth? R. C. TAYLOR.

[We have several colonies of *pure* Italian bees in the JOURNAL apiary which have been pronounced albinos by those who have seen the so-called albinos. It is our opinion that all the albinos in this country are the result of successful and careful crossing of the lighter strains of Italian bees, thereby establishing a very light, good and beautiful type of bees.—ED.]

Business Matters.

OUR TERMS OF SUBSCRIPTION,

PAYABLE STRICTLY IN ADVANCE.

Single subscription, one year	$1 50
Two subscriptions, sent at the same time	2 50
Three " " " "	3 50
Four " " " "	4 50
Five or more, " " "	each, 1 00

☞ If not paid strictly in advance, TWO DOLLARS per annum will charged in all cases.

Advertisements will be inserted at the rate of **20 cents** per line of Agate space, for each insertion, cash in advance. One inch measures fourteen lines. Special Notices 50 cents per line.

☞ A line will contain about eight words; fourteen lines will occupy an inch of space. Advertisements must be received by the 20th, to insure insertion.

Notice to Advertisers.—We intend only to advertise for reliable dealers, who expect to fulfill all their advertised promises. Cases of *real* imposition will be exposed, and such advertisements discontinued. No advertisement received for less than $1.

Address all communications and remittances to

THOMAS G. NEWMAN & SON,
972 & 974 West Madison St. CHICAGO, ILL.

TO CORRESPONDENTS.

When changing a post-office address, mention the *old* address as well as the new one.

We send the JOURNAL until an order for discontinuance is received and all arrearages are paid.

We do not send goods by C. O. D., unless sufficient money is sent with the order to pay express charges both ways, in case not taken from express office.

In consequence of the dearth of small currency in the country, we will receive either **1, 2 or 3 cent stamps,** for anything desired from this office.

Strangers wishing to visit our office and Museum of Implements for the Apiary, should take the Madison street-cars (going west). They pass our door.

Additions can be made to clubs at any time at the same rate. Specimen copies, Posters, and Illustrated Price List sent free upon application, for canvassing.

Remit by post-office money-order, registered letter or bank-draft, payable to Thomas G. Newman & Son, so that if the remittance be lost it can be recovered.

We will send a tested Italian Queen to any one sending us **FIVE** subscribers to the AMERICAN BEE JOURNAL with **$7.50.** The premium Queens will in every case be tested, but not sent till after July 1st.

Seeds or samples of merchandise can be mailed for one cent per ounce, Printed matter one cent for every two ounces. These must be tied up; if pasted, they are subject to letter postage. *Don't send small packages by express, that can just as well be sent by mail.*

For the convenience of bee-keepers, we have made arrangements to supply, at the lowest market prices, Imported or tested Italian Queens, Full Colonies, Hives, Extractors and anything required about the Apiary. Our Illustrated Catalogue and Price List will be sent free, on application.

We have gotten up a "Constitution and By-Laws," suitable for local Associations, which we can supply, with the name and location of any society printed, at $2 per hundred copies, postpaid. If less than 100 are ordered, they will have a blank left for writing in the name of the Association, etc. Sample copy will be sent for a three-cent postage stamp.

Our answer to all who ask credit is this: We sell on **small** margins, and cannot afford to take the risks of doing a credit business. If we did such a business, we should be obliged to add at least 10 to 20 per cent. more to our prices, to make up for those who would never pay, and to pay the expenses of keeping book-accounts with our customers—this we know our **Cash** customers would not think to their advantage.—This rule we must make general in order not to do injustice to any one. The cash system gives all the advantage to cash customers, while the credit system works to their injury. In justice to all we must therefore require **Cash with the order.**

A Good Man's Good Work.

Since the first of January, 1879, Mr. G. M. Doolittle, of world-wide fame, has sent us *three hundred and thirty-five* subscriptions for the AMERICAN BEE JOURNAL. This is the largest club sent us by any one party, and is the more gratifying, as coming from so scientific a bee-keeper and such a learned gentleman as Mr. Doolittle. In addition to his lists of names, which come in almost as regularly as the mails themselves, he has furnished a monthly correspondence of instructions for the management of the apiary, either of which has been worth alone to some subscriber the yearly price of the JOURNAL, and one of which was so eagerly sought after we had to reprint it in pamphlet form. Can any wonder that we feel an enthusiastic pride in such a man's appreciation of our efforts to make an acceptable and useful paper for our many readers?

◆

☞ A club for the BEE JOURNAL may be sent all to one post office or to as many post offices as there are names in the club.

◆

THE HIVE I USE.—This is a pamphlet of 16 pages, giving a description of the hive used by Mr. G. M. Doolittle; it is re-published from the BEE JOURNAL for March, for the convenience of the many who desire to get the particulars therein given, either for reference or making the hive for their own use. It can be obtained at this office: price 5 cents.

◆

☞ We can fill all orders during the remainder of this season for queens, mostly reared and tested in the AMERICAN BEE JOURNAL apiary. Our queens are all bred in full colonies, from the best American improved Italian mothers, and we have no doubt will give satisfaction in every case. We guarantee safe arrival. Price, $2.50 each.

◆

☞ Owing to the reduced price of beeswax and a corresponding reduction by manufacturers of foundation, we can fill orders till further notice at the following figures:

1 to 5 lbs., per lb.	47c
5 to 25 " "	46c
25 to 50 " "	45c
50 to 100 " "	44c
100 lbs. or more "	43c

Wired and thin flat-bottomed as heretofore.

☞ No book can be more useful to horse-owners than one recently published by Dr. B. J. Kendall, Enosburgh Falls, Vt. The price being only 25 cents, all can afford it. Every one who sees it is very much pleased with it, as it has 35 fine engravings illustrating positions of sick horses, and treats all diseases in a plain and comprehensive manner. It has a large number of good recipes, a table of doses, and much other valuable horse information. The book can be had of the author as above, or at the AMERICAN BEE JOURNAL office.

Local Convention Directory.

1879. *Time and Place of Meeting.*
Aug. 3.—Southern Iowa, at Mt. Pleasant, Iowa.
10.—Lancaster Co., Pa., at Lancaster.
26.—N. W. Ill. and S. W. Wis., basket picnic, at Shirland, Ill.
30.—Southern Iowa, at Mt. Pleasant, Iowa.
Sept. 2, 3.—N. E. Wisconsin, at Watertown, Wis.
17.—Warren Co., Iowa, at Indianola, Iowa.
Oct. 2.—Union, at Shelbyville, Ky.
7.—Central Kentucky, at Lexington, Ky.
7.—Albany County, N. Y., at Albany, N. Y.
15—Central Michigan, at Lansing, Mich.
21.—National Convention, at Chicago, Ill.
23, 24.—Southern Kentucky, at Edmunton, Ky.
Dec. 9.—N. W. Ill. & S. W. Wis., annual, at Davis, Ill.
1880.
Feb. 11—Northeastern, at Utica, N. Y.

☞ In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

Honey Markets.

CHICAGO.

HONEY.—White clover, put up in single-comb boxes, in slow demand. Prices paid for such, 12@14c. When more than 1 comb in a box, 9@10c. Dark, in the comb, slow sale at 9@11c. Extracted Honey, white, 7@8c.; dark, 6@7c.

BEESWAX.—Prime choice yellow, 20@22c; darker grades, 12½@15c,

NEW YORK.

QUOTATIONS.—Best fancy white comb honey, 11@13c; extracted, new, 7@8c; buckwheat comb honey, 8@10c; beeswax, prime, 25c.

H. K. & F. B. THURBER & CO.

CINCINNATI.

COMB HONEY—In small boxes, 10@12c. Extracted, 1 ℔. jars, in shipping order, per doz., $2.50; per gross, $28.00. 2 ℔. jars, per doz., $4.50; per gross, $50.00.

C. F. MUTH.

CALIFORNIA.

The honey crop in a great many parts of the State will be a total failure, in other counties a small yield; because of this, what little new we have is held at 12½c.: old, 8 to 10c. Extracted—Old, 7c.; no new extracted in the market.

STEARNS & SMITH, 423 Front St., San Francisco, Cal.

QUINBY'S NEW BEE-KEEPING
sent postpaid for $1.50.
NEW QUINBY SMOKER,
postpaid, $1.00, $1.50 and $1.75.
Everything in the line of bee-keeping supplies promptly furnished.
Particular inducements offered to those desiring to purchase books and smokers to sell again.
For circular address
L. C. ROOT, Mohawk, N. Y.

ITALIAN QUEENS!

For August and September trade we shall breed from

Three Different Strains

of bees, which have distinguished themselves above all others the present season by giving

DOUBLE

The Average Yield

of honey, and proving gentle and uncommonly prolific. A duplicate of either of these queen-mothers is worth five times her cost to any one desiring to secure the "cream of our apiaries." Prices will be as follows:

Dollar queens, each	$1 00
" " per dozen	11 50
Warranted queens, each	1 50
" " per half dozen	8 00
" " per dozen	15 00
Tested queens, each	2 50
1 nucleus of 2 Modest frames, brood, bees and warranted queen	4 00
5 nuclei, do	18 00

Above, with tested queen, add $1.00 for each nucleus.

Full colonies in Modest hives	$7 50

COMB FOUNDATION!

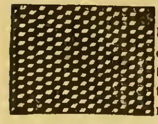
at prices to meet any and all competition—43 to 47c.—cut to any size desired.

J. OATMAN & SONS,
8-9 Dundee, Kane Co., Ill.

FOUNDATION

AT GREATLY

REDUCED FIGURES!



Owing to the reduced price of beeswax, and a corresponding reduction by manufacturers, we can fill orders, till further notice, at the following **greatly reduced** rates:

1 to 5 lbs., per lb	47c.
5 to 25 " "	46c.
25 to 50 " "	45c.
50 to 100 " "	44c.
100 lbs. or over, per lb	43c.

The above prices include foundation manufactured on both the Dunham and Root machines. Wired and thin flat-bottomed sold at rates as heretofore published. Address,

THOMAS G. NEWMAN & SON,
972 and 974 West Madison Street, **Chicago, Ill.**

Buy Bees and Bee Fixtures,

Best Foundation—Bee Books, etc., of B. B. BARNUM, 380 Preston Street, Louisville, Ky.

NOTICE.

I will sell ONE HUNDRED COLONIES OF BEES during the month of September. For prices and particulars apply to

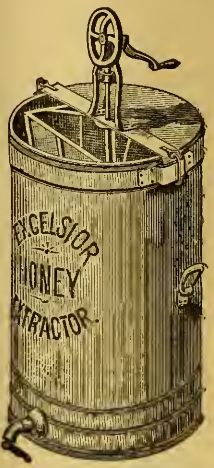
GEO. GRIMM,
8-9 Jefferson, Wis.

COFFINBERRY'S

Excelsior Honey Extractor

Sizes and Prices:

No. 1.—For 2 Langstroth frames, 10x18 inches	$8 00
" 2.—For 2 American Frames, 13x13 inches	8 00
" 3.—For 2 frames, 13x20 inches or less	12 00
" 4.—For 3 " " " "	12 00
" 5.—For 4 " " " "	14 00



Having made many improvements in the EXCELSIOR EXTRACTOR for 1879, it is now offered to the Bee-Keepers of America as the MOST PERFECT MACHINE in the MARKET. The universal favor with which the EXCELSIOR EXTRACTOR was received in 1878, has induced other manufacturers to adopt several of its improvements. My experience and experiments of last season, with the assistance and suggestions of skillful workmen, have enabled me to perfect an Extractor that **cannot be excelled, and can only be equaled by being closely imitated.**

Some of its advantages are as follows: It is made entirely of metal. It is light, but has attachments for fastening down to a platform. It can be instantly taken to pieces for cleaning, having no rusty screws to take out or nuts to remove.

The top or cross-band, to which is attached the gearing, is wrought iron, three inches broad, with the ends turned down in such manner as to thoroughly brace and strengthen the can and hold the basket firmly in an upright position.

The strong over-motion gearing, so necessary to ease in running and speedy operating, was designed and is manufactured expressly for the Excelsior. A child ten years of age can operate the machine as rapidly as it can be supplied with combs.

The Comb Basket having vertical sides, insures the extracting power alike for top and bottom of frames. The sides of the basket being movable and interchangeable, greatly facilitate the operation of dusting before and thoroughly cleaning after use.

It has a small comb-holder for extracting pieces of comb or partly-filled sections.

At the bottom of the can, and below the basket, is a cone or metal standard, in the top of which revolves the bottom pivot of the basket, thereby giving room for sixty or seventy pounds of honey without touching the basket or pivot below.

Nos. 3, 4 and 5, have neatly-fitting covers, movable sliding sides to the baskets, and movable strainers covering the canal to the faucet, whereby all honey can be drawn off without a particle of sediment.

The baskets of Nos. 4 and 5 have no center rod running from top to bottom, which will be found very convenient by those who uncap both sides of the comb before putting in the basket, as they can be turned without removal.

The wire baskets are very neat specimens of skillful workmanship, thoroughly braced at every point where experience has proven it to be most requisite, and nothing has been omitted that could add to its efficiency.

The No. 4, for **three** frames, has a triangular basket, movable sides, no center rod, runs smoothly regardless of number of frames, and is fast superseding the demand for four-sided baskets.

A LOWER PRICED MACHINE

being called for by those having but few colonies, and not making a specialty of bee-keeping, I have made a special size to take the Langstroth frame, and one for the American, to sell at **$8.00** each. These have no covers or strainer, and are smaller than the $12.00 and $14.00 sizes, but for the frames named are equal to the others for effective work, and are the **best cheap Extractors made.**

☞A liberal discount to dealers.

Address, **C. C. COFFINBERRY,**
Or American Bee Journal, Chicago, Ill.

ITALIAN QUEENS.

That there is a vast difference in the practical, desirable qualities of Italian bees, is a fact well known by all who have bred them on a large scale. We have for many years past kept this point in view, and have perfected a strain of bees that excel as honey-gatherers, at the same time securing the desirable quality of hardiness that enables them to safely pass our coldest winters. We shall continue to rear and sell choice queensfrom this strain of Italian blood, during the season of 1879, at the following reasonable prices. We ship no dollar queens until they are fertile and begin to lay.

Untested	queens,	each	$1 00
"	"	per half dozen	5 75
"	"	per dozen	11 50
Warranted	"	each	1 50
"	"	per dozen	15 00
Tested	"	each	2 50
"	"	per dozen	25 00
Selected tested queens, each			3 50
Imported queens, each			4 50
Italian 7 frame nuclei, with dollar queens, each			3 00
Ditto.	ditto.	per dozen	30 00
Ditto.	ditto.	with tested queen	4 50
Ditto.	ditto.	with imported queen	6 50

At above prices *we pay express charges on Nuclei* to any point reached by the American Express Company, and on 3 or more queens, to any point reached by the American, United States, Adams, or Union Express Companies.

☞ For prices of smokers, knives, comb foundation, honey extractors, wax extractors, prize boxes, etc., see May *American Bee Journal*, or send for our descriptive 40-page Catalogue. Send money by post-office order, bank draft, registered letter or express, and address your orders to

HERBERT A. BURCH & CO.,
1-tf South Haven, Mich.

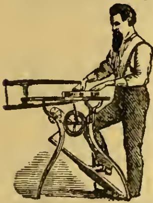
ITALIAN QUEENS.

I am still breeding pure Italian Bees from Imported and Selected Home-bred Queens.

Single Tested Queen	$2 00
Warranted Queen	1 50
Not Warranted Queen	1 00
Full Colonies, after October 1st	6 00

Address, **T. G. McGAW & SON,**
7-10 Lock Box 287, Monmouth, Warren Co., Ill.

BARNES' PATENT
Foot-Power Machinery



CIRCULAR and
SCROLL SAWS

Hand, Circular Rip Saws for general heavy and light ripping. Lathes, &c. These machines are especially adapted to **Hive Making.** It will pay every bee-keeper to send for our 48 page Illustrated Catalogue.

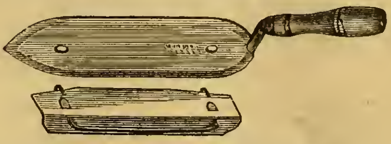
W. F. & JOHN BARNES,
Rockford, Winnebago Co., Ill.
junely

CUTS FOR SALE.

Electrotype Cuts of any of the Extractors or Bee Hives, for illustrating circulars, pamphlets, and for advertising, by mail, post-paid, each	$1 00
Queen cuts (three different styles) each..75c. and	1 00
Italian or black workers, or drones, each	75

We also furnish electrotypes of any of our cuts used in the BEE JOURNAL, or will have engravings made of anything desired.

Bingham & Hetherington
HONEY KNIVES!



Are used plain, if the combs are held upright, and with the cap-catcher, if laid on a table. They are not *like any other* honey knife ever made. They are superior in finish and temper, and do much more and better work. *No one can afford to be without one.* Plain, $1.00 ; with movable cap-catcher, $1.25. Send for Circular for dozen rates for Knives and Bingham Smokers to BINGHAM & HETHERINGTON,
Abronia, Allegan Co., Mich.

Bee-Keepers' Supplies!

I shall continue to sell, at reasonable rates, a large variety of Bee-Keepers' Supplies, such as

MUTH'S ALL-METAL HONEY EXTRACTOR,

UNCAPPING KNIVES,

WAX EXTRACTORS,

LANGSTROTH BEE HIVES,

SECTIONAL BOXES,

SQUARE GLASS HONEY JARS,

to hold one and two pounds each, with Corks, Tinfoil, Caps and Labels, ½ lb. Tumblers, Glass Fruit Jars, &c.

COMB FOUNDATION,

BEESWAX, GLOVES, VEILS, STRAW MATS, ALSIKE CLOVER SEED,

as well as a great assortment of Garden and Field Seeds, &c. For further particulars address,

CHAS. F. MUTH,
2-tf 976 and 978 Central Ave., Cincinnati, Ohio.

Oesterreische Bienen-Zeitung.

Allgemeines Organ fur Bienenzuecht, Organ der Gesellschaft der Bienenfreunde in Bœhmen. A monthly paper devoted exclusively to bee-keeping. Price, 1f. 20c.—Austrian value. 60c. a year. The cheapest and largest Austrian bee journal ; contributors are the best practical writers on bee-keeping in all parts of the world. The only German journal that furnishes reports and items from the American and English bee papers. Addresses to be sent to RUDOLF MAYERHŒFFER, Publisher of the Oestern Bienen-Zeitung, Praga Neustadt 747.

L'APICULTEUR, is the title of the French Monthly Journal devoted to bee-culture, edited and published by Mons. H. Hamet, Rue Monge 59, Paris. Price 7 francs.

Bingham Smoker Corner.

Borodino, N. Y., July 14, 1879.

Gentlemen : I have used one of your uncapping knives for the first to-day, and desire to say, that it is far the best knife I ever used. It carries the cappings *clear* from the comb, and is not so thin as to bend in the comb as some of the light ones do.

G. M. DOOLITTLE.

Cape Girardeau, Mo., July 16, 1879.

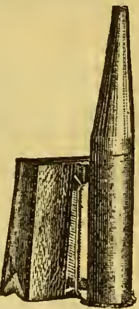
The Smokers as well as the Honey Knives give excellent satisfaction, and are all they are represented to be. G. C. THILENIUS.

Sprout Brook, Mont. Co., N. Y., July 17, 1879.

You have doubtless heard of the Irishman who went to buy a stove. The dealer, after showing him the various styles, pointed to the *best one* and said : "If you will buy one of *this* kind you can save half of your wood." Pat replied : "Be jabers, then, I'll take *two*, and save it all. The Bingham & Hetherington Honey Knife that I used last season *saves so much time in uncapping*, that I want another to try and *save it all*. Time, you know, is honey with us beekeepers just now. CHAS. C. VAN DEUSEN.

SOMETHING OLD!

OLDEST AND BEST!



The old, reliable, original, direct-draft Smoker.

This Smoker is so perfect that it has never been improved. The more exact the copy the better the Smoker and the plainer the infringement. Beware of all new direct-draft Smokers — Bingham owns all there is of value in them. Every seller and user is liable. Our Smoker has been in use two years longer than any bellows Smoker now made. If you want the best Smoker and no further expense, buy only the Bingham. If you want to encourage invention and not theft, buy only the Bingham.

Standard size, 2-inch...........	$1 50
Little Wonder, 1¾-inch........	1 00
Extra large, 2½-inch...........	1 75

Sent free, per mail, on receipt of price. A discount of 12 per cent. made from retail rates on all smokers sent by express with or without one or more Bingham & Hetherington patent Honey Knives.

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BINGHAM & HETHERINGTON have made arrangements with the American Express Company at Otsego, to carry honey knives over their routes and either one of the other Express routes named below at 18 cents per knife, in single packages. This arrangement, it will be seen, will carry knives to all places where one of the Express Companies mentioned is located : American, Adams, United States, National, Union, Central, New Jersey, Delaware, Lackawana and Western. Address,

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FLAT-BOTTOM COMB FOUNDATION. —High side-walls, 4 to 16 square feet to the lb. Circular and samples free.

J. VAN DEUSEN & SONS, Sole Manufacturers,
7-8 Sprout Brook, Mont. Co., N. Y.

SPERRY & CHANDLER'S
NORTH STAR HIVE.

There are now over 1,000 of these Hives in use in different parts of the United States, and wherever tried they are pronounced the best Hives before the public for all general and special purposes. We are now prepared to promptly fill all orders for the North Star, or Improved Langstroth, with our patent Manipulating Side. Samples of surplus honey taken from the North Star, as also our hives in use, may be seen at the American Bee Journal office. Send for illustrated circular—correspondence solicited.

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974 W. Madison Street,
Or AMERICAN BEE JOURNAL, Chicago, Ill. 8-tf

IMPORTED QUEENS!

We are receiving Queens from the best districts in Italy, which we can sell at $5.00 each, and guarantee safe arrival.

They are to be light, large and active. Any that do not come up to this standard we will dispose of at $4.00 each. If a number are ordered, a slight discount can be given.

No circulars issued, or Cyprian Bees for sale at present.

Registered letter or money order sent at our risk.

C. W. & A. H. K. BLOOD,
P. O. Box 234, **Quincy, Mass.**

1879. 1879.

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We can supply very large, very yellow, extra prolific and pure queens, from imported mothers, by *mail*, for $1.00 each ; 10 per cent off above prices by the dozen. Circulars giving our method of rearing pure queens sent free. HENRY ALLEY,
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25 cents a year. Devoted to Fruit, Flowers and the Market Garden. Published quarterly by T. S. Gardner, the great Strawberry Grower of Russellville, Ky., who now cultivates over 100 acres in Fruit. **The Cheapest Paper of its class in the U. S. Over 60,000 readers**; 25 per cent. commission to Agents. Specimens free for names and address of 10 persons interested in Fruit, Flowers, etc.
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DOWN SHE GOES!

IN PRICE, BUT NOT IN QUALITY, for fall of 1879 :

Tested Italian Queens..............................	$2 50
" " " six or over, each..........	2 00
Warranted Queens..............................	1 50
Dollar "	1 00
Comb Foundation, 10 pounds or over............	42

Wax cleansed and worked into foundation, 10 to 25 lbs., 18 cents per lb.; 25 lbs. or over, 16 cents, or will work on one-half shares.

See What they Say!

Mr. H. Alley, Wenham, Mass., says, May 10, 1879 : "Queens just to hand ; workers with them are handsome." June 9th : She is very nice ; is striped, and her young queens are duplicates of her."

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Similar testimonials are being received constantly.

☞ Send for Circular and Price List.

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HORSE BOOK Send 25 cents in stamps or currency for a new HORSE BOOK. It treats all diseases, has 35 fine engravings showing positions assumed by sick horses, a table of doses, a large collection of VALUABLE RECIPES, rules for telling the age of a horse, with an engraving showing teeth of each year, and a large amount of other valuable horse information. Dr. Wm. H. Hall says, "I have bought books that I paid $5 and $10 for which I do not like as well as I do yours." SEND FOR A CIRCULAR. AGENTS WANTED.
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ITALIAN QUEENS,

1879.

Price, April, May and June.................each, $3 00
" July, August and September........ " 2 00

STANDARD OF PURITY.

All Queens guaranteed to be of good size, vigorous and producing workers large and uniformly marked with three distinct yellow bands, of fine golden color.
We shall have a shipment of fine *Tested* Queens, from Italy, in April, selected for our Apiary.
No Circulars. [2-tf] A. F. MOON, Rome, Ga.

Italian Queens or Colonies.

Eighteen years experience in propagating Queen Bees from imported mothers from the best districts in Italy. Persons purchasing Queens or Colonies from me will get what they bargain for. Send for circular.

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FOUNDATION MACHINE!

Manufactured only by the Inventor.

And also everything of any practical value in the Apiary: Hives, Sections, &c. Samples of Foundation made upon the above machine FREE. Circulars sent on application.

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Send for Murphy's Price List of Honey Extractors for 1879. The

Only American Extractor

that was awarded a

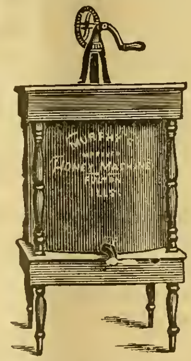
Medal & Diploma

by the regularly appointed judges at the Centennial Exposition of 1876. Also,

SECTION

Honey Boxes

of all kinds, at low rates.



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Supplies for your Apiary, send a postal card with your name (and if you will do us the kindness, those of bee-keeping neighbors) for our illustrated circular of Apiarist's Supplies, of every description; sample Sectional Box, and Comb Foundation made on the

Dunham Foundation

machine, which is the latest improvement in that line. We wish to place these samples before

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of this JOURNAL, and hence offer them **FREE**. Just send your name at once. Special attention given to rearing Italian Queens and Bees.
☞ We have secured the general agency of the above machine.
The highest price paid for Beeswax.
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Tested, Warranted and Dollar Queens.

Send address on postal for circular and prices of

QUEENS, FULL COLONIES,

COMB FOUNDATION,

HONEY BOXES,

SECTIONS,

SMOKERS,

and all useful implements for bee-keepers to

JAMES HEDDON,
DOWAGIAC, MICH. 3-10

1865.— **THE** —1879.

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HOUSE.

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As a Manufacturer of

COMB FOUNDATION,

I can say my goods have given entire and universal satisfaction. The ruling low prices were made by me, and any one desiring any considerable quantity would do well to consult me before buying elsewhere.
☞ Market price for Beeswax.

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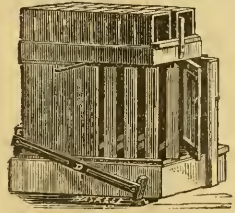
IMPROVED

CENTENNIAL BEE HIVE.



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ON WOOD.
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Our foundation for beauty and purity cannot be excelled.

TESTIMONIALS.

The sample of foundation is the nicest that I have ever seen, take all points together.
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Your foundation is O. K.—it looks brightest of them all. Send me 200 lbs. more.
CHAS. F. MUTH, Cincinnati, O.

We have scores of similar praises.

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Hamilton, Ill.

Cheap Hives.

See our "ad." in JOURNAL for December, January, February and March.

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Following prices are for any size up to 6x6:

Plain, sawed smooth, per 1,000	$4 50
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" sandpapered, "	6 50
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Lewis' Honey Boxes and Dovetailed Honey Boxes, very cheap, all of excellent material and Workmanship. All Sections grooved for foundation. No charge for boxing. Discount on large orders.
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ITALIAN QUEENS—All bred from Imported Mothers of my own importation. Dollar and Tested Queens from 1st April to 1st November. Full Colonies and Nuclei; Bee-Keepers Supplies of all kinds; Comb Foundation, etc.
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Save Your Fowls,

and get Circular and Price List of Italian Bees, Pure Bred Fancy Poultry, &c., by sending your address to
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12 inches wide	$40 00
9 inches wide	30 00
6 inches wide	25 00

Every machine warranted. On receipt of 10 cents, I will send a sample of the foundation made by the machine. Machines for drone or worker comb at the same price.
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BEES OR HONEY

We will with pleasure send you a sample copy of our

Monthly Gleanings in Bee-Culture,

with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Artificial Comb, Section Honey Boxes**, all books and journals, and everything pertaining to Bee Culture. *Nothing patented.* Simply send your address on a postal card, *written plainly*, to A. I. ROOT, Medina, O.

Look Here.

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LANGSTROTH HIGH-PRESSURE BEE HIVE!

After about fifteen years experimenting, simplifying and utilizing, I have succeeded in arranging a hive that I am confident possesses more advantages for less money than any other yet offered, and as it is patented—by letters dated 1868 and 1872—will state some of the advantages: It is double and triple walled, *one thickness tarred roofing paper*, side opening, fast or loose bottom, adjustable portico and honey-board, can be used single or two-story, long, low brood-chamber, or compounded to suit any sized swarm, either for comb or extracted honey, breeding colonies or for a non-swarmer. Now, after testing my hive thoroughly, I wish to introduce it to the bee keepers of the United States, either by selling territory very cheap, or by responsible agents, giving references, to manufacture and sell on a royalty. By sending 25 cents in stamps you will get a pamphlet of 50 pages, describing it more particularly, and giving much useful matter pertaining to my plan of working, &c.
A. H. HART.
Appleton, Wis., March 12, 1879. 4-tf

1879. QUEENS! QUEENS! 1879.

ITALIAN QUEENS!
CYPRIAN QUEENS!
HUNGARIAN QUEENS!

During the past eighteen years we have been

HEAD-QUARTERS!

for Italian Queen Bees, and now we have added the Cyprian and Hungarian bees to our stock. To be up with the times, we shall continue to sell

DOLLAR QUEENS!

With our long experience in the Queen-rearing business, we can warrant all our Queens to be purely fertilized, and we also guarantee safe arrival by *mail* or *express*. Parties intending to purchase Queens the coming season should read our

Special "Queen Bee" Circular!

giving instructions for introducing Queens safely, and containing other information valuable to bee-keepers. All bee-keepers should read our eighteenth annual circular and price-list of apiarian supplies. Both circulars sent free.

PRICES OF QUEENS.

Tested Queens, each	$2 00
" " per dozen	20 00
Warranted Queens, each	1 00
" " per dozen	11 00

IMPORTED QUEENS.

Cyprian, each	$10 00
Hungarian, each	5 00
Italian, each	4 50

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Wenham, Essex Co., Mass.

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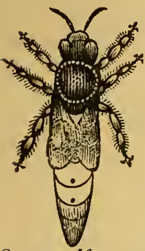
640 ACRES OF TIMBER LAND in Northern Florida, about 50 miles south of the Georgia Line, 25 miles west of Tallahassee, and near the Apalachicola river. Title clear and unincumbered. Will trade the above described land, either a part or the whole, for a farm or an apiary in some North western State, at a fair valuation for both. For particulars, giving a description of what you wish to offer in exchange, addresss, FLORIDA LAND, care AMERICAN BEE JOURNAL, Chicago.

Best American
IMPROVED
ITALIAN QUEENS!



We can fill orders for fine tested Queens, mostly reared and tested in the

American Bee Journal
APIARY.

Our Queen Mothers are the best to be had in the United States, and the Queen-cells are all started in full colonies.

We are very careful in the selection of our breeding stock, and great care is taken in the propagation and culture of large, yellow drones. We do not rear dollar Queens. If a young Queen does not test A No. 1, she is not worth paying express charges on, and we would rather destroy her than disseminate poor stock. Fall is the best time to Italianize colonies, and the best Queens are most profitable. Address.

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972 and 974 West Madison Street, **Chicago, Ill.**

Golden Italians.

We have them in their purity. Circulars and prices free.
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4-9 Box 64, Columbus, Ind.

FOR IOWA AND MINNESOTA.

Purchase your tickets via THE IOWA ROUTE, composed of the Burlington, Cedar Rapids & Northern, and Minneapolis & St. Louis Railways. The only line running Through Pullman Palace Sleeping Cars between St. Louis, Burlington, and all points on the line of the Burlington, Cedar Rapids & Northern Railway and Minneapolis.

A full line of Excursion Tickets will be sold at principal stations for the noted summer resorts of MINNESOTA, from June 1st to October 15th, at a LARGE REDUCTION from regular rates. Tickets good for 60 days from date of sale, but in no case longer than October 31st, following date of sale. The Minnetonka Lake Park Association have bought and improved 225 acres of land, in which are located fine hotels, which will accommodate 3000 people. Besides the sources of amusement incidental to the lake, the Park Association will hold a Musical Convention July 28th to August 1st; Grand Temperance Congress of Iowa, Minnesota and Wisconsin, August 2d to 5th; Sabbath School Assembly, August 6th to 20th.

Don't fail to go and enjoy the attractions offered by Minnesota. B. F. MILLS, Ass't G. T. Agent.
C. J. IVES, Superintendent.

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FOR 1879.

I shall breed Italian Queens for the coming season, from imported mothers of undoubted purity. Safe arrival and purity guaranteed in every shipment. Prices very low. Circulars sent free. Address,
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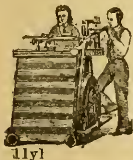

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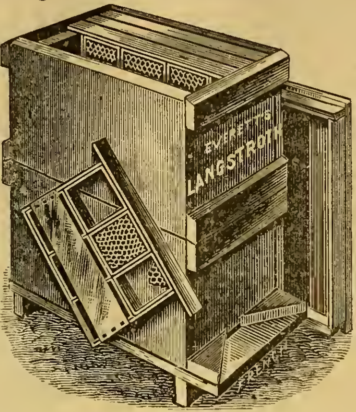
Honey Extractors and Hives a Specialty.



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IMPORTED

Under the Personal Supervision of

J. POMETTA, of Gudo,
Canton Ticino, Switzerland.

I shall start for America with a lot of the very best of purely fertilized Italian Queens, in June, and expect to be in Chicago, Ill., with them about July 15, 1879. I solicit orders for them, sent to me in care of the AMERICAN BEE JOURNAL office (by permission), as I shall be a stranger in a strange country. **Price, $5.00 each. A liberal discount on orders of five or more.**

I have been supplying Pure Italian Queens to Mr. C. N. Abbott, Editor of the *British Bee Journal*, and to Messrs. Neighbour & Son, of London, ever since 1873. They have obtained several prizes on these Queens at the Bee and Honey Shows of England. Orders solicited. J. POMETTA.

BEFORE

purchasing colonies with imported queens, or home-bred queens, Italian Queens, COMB FOUNDATION, and implements in bee-culture, write for circular with prices, and sample of comb foundation free.

Our foundation for beauty and purity cannot be excelled.

TESTIMONIALS.

The sample of foundation is the nicest that I have ever seen, take all points together.
G. M. DOOLITTLE, Borodino, N. Y.

Your foundation is O. K.—it looks brightest of them all. Send me 200 lbs. more.
CHAS. F. MUTH, Cincinnati, O.

We have scoros of similar praises.

CHAS. DADANT & SON,
Hamilton, Ill.

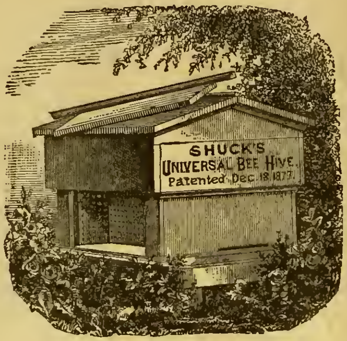
Bees!---1879.---Bees!

Full Colonies, Nuclei and Queens Cheap. Supplies furnished. Satisfaction guaranteed. Write for particulars. S. D. McLEAN & SON, Culleoka, Maury Co., Tenn. 2-7

ITALIAN QUEENS AND BEES.

Send for price-list of Queens, full colonies, four-frame nuclei, comb foundation, and apiarian supplies. Satisfaction and safe arrival guaranteed. All Queens reared from Imported Mothers.
4 H. H. BROWN, Light Street, Col. Co., Pa.

SHUCK'S UNIVERSAL BEE HIVE.


SHUCK'S
UNIVERSAL BEE HIVE.
Patented Dec. 18, 1877.

Claims the Attention of every one engaged or interested in Bees.

THE HIVE

Is devised by a practical bee-keeper for PROFITABLE use ; double walls, with either dead air space or chaff packing ; inside walls are porous, allowing all moisture to escape from the brood chamber, keeping it perfectly dry, sweet and wholesome, even with unsealed stores ; both sides are removable ; frames hung upon metal supports on the top of the end walls (not in rabbets) and are easily handled ; brood chamber large or small, as desired, and may be as complete with one frame as with a dozen ; space for 96 pounds surplus honey within six inches of the brood nest. No colony need be lost during the winter months in this hive. No melting combs in this hive during the hot weather. Positively

THE BEST HIVE BEFORE THE PUBLIC.

APIARY RIGHTS, $5.00. TERRITORIAL RIGHTS FOR SALE ON EASY TERMS.

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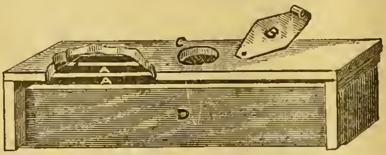

Patented June 11, 1878,

Removes all the obstacles in the way of feeding, by its simplicity, cheapness, and its adaptability to the purposes required. It is to be placed at the entrance outside the hive, and supplied with sugar syrup, or syrup and flour any time in the day, without annoyance from bees, either to the bee-keeper or the colony being fed ; no bees can reach the food except from the inside of the hive. Every bee-keeper appreciates the advantage of feeding to supply short stores for the colony, or to stimulate and encourage breeding, previous to an expected flow of honey.

Prof. A. J. Cook says : "I think very highly of your feeder, and only find fault with the price."

G. M. Doolittle says : "You are just a shouting when you say, 'I trust my Boss Bee Feeder will please you.' It is the best bee-feeder I ever saw, in ease of feeding, simplicity and for general use. When I see a good thing I like to say so. It is worth no less because it is patented."

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SAMPLE, BY MAIL, 30 CENTS.

Address, J. M. SHUCK,
DES MOINES, IOWA.

THE AMERICAN
BEE JOURNAL
Devoted Exclusively to Bee Culture.

VOL. XV. CHICAGO, ILLINOIS, SEPTEMBER, 1879. NO. 9.

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Editor's Table.

☞There are several communications and many letters crowded out of this number, which we much regret, as all are of interest to some of our readers. We certainly feel very grateful for the liberal contributions to our pages, and only want of space is the reason for "laying" them over.

☞Mr. J. Pometta, whose advertisement may be found elsewhere in this number, has arrived from Europe, with a large invoice of very fine Italian queens. In fact, they are as fine a lot as we have ever seen. Orders may be addressed to him in our care, or to the AMERICAN BEE JOURNAL.

☞From Mr. G. O. Kalb, Secretary, we have received Premium List of St. Louis Fair and Exposition, to be held Sept. 22 to Oct. 11, 1879. Fifty thousand dollars in premiums are offered, and their competitive list embraces nearly everything.

Mr. F. C. Smith, Atlanta, Ga., favors us with a copy of Premium List of Georgia State Fair, to be held at Macon, Ga., Oct. 27 to Nov. 1. The list is quite elaborate and liberal.

Mr. Frank Benton, Lansing, Mich., sends us a copy of Premium List of Michigan State Fair, to be held at Detroit, Sept. 15-19, 1879. Mr. Benton deserves great credit for his successful efforts in the liberal and judicious recognition of apicultural interests with the management of the Michigan State Fair. No less than 13 premiums are offered, and their manner of placing will greatly stimulate competition.

Bee and Honey Show in London.

The British Bee-Keepers' Association held its 5th great exhibition at the gardens of the Royal Agricultural Society at South Kensington, London, July 22-24, 1879. These gardens are perfectly magnificent and in every way a suitable place to hold a Bee and Honey Show,

The display of apiarian implements was simply immense, covering the whole ground from a bee veil to a comb foundation mill. The display made by the AMERICAN BEE JOURNAL was not in any way competitive; we were requested to enter many things for competition, but we firmly declined. We regarded our position—representing the bee-keepers of North America—as not being in harmony with competing for prizes. We displayed at both of the London shows, simply to show America's best thoughts expressed in its apiarian implements, and were well paid by the interest manifested in their examination, and the enthusiastic reception that we everywhere met with,

In order that Americans may fully appreciate the measure of good feeling that was everywhere exhibited towards their representative, we may be pardoned, perhaps, for copying the following notices of the press. The first is from the *British Bee Journal:*

> Another distinguished visitor arrived on the ground during the Show, not on the day appointed, for, through an accident, or rather a series of them, his ship had to put back and he was delayed. We allude to Mr. T. G. Newman, the editor of the AMERICAN BEE JOURNAL, who was received with open arms by all who knew his fame, and his kind, genial manner soon made him a general favorite. An advanced bee-keeper, he is most uncompromising against adulteration and humbug in all their bearings, and on several occasions boldly, yet with due modesty, enlarged on the improvements which had taken place in American bee-culture, and, in reference to a honey market, commended to the notice of English bee-keepers the splendid methods of marketing the product adopted by Messrs. Thurber & Co. He was everywhere received with cheers, and his observations were listened to with profound attention, broken only by the shouts of laughter which his propensity for fun often created.

It may here be noted that we gave two lectures on "American Bee-Keeping," in the Bee Tent at Kilburn, and two more in the tent at South Kensington. It was these lectures that Mr. Abbott referred to in the above paragraph. We labored to place Americans and their honey product in their true light before British bee-keepers, and we are fully rewarded in finding that the prejudice so often exhibited heretofore, has now no longer any existence. It was unfortunate that some adulterated American honey should have found its way to Great Britain, but as soon as Englishmen understand that we neither approve of the transaction nor apologize for it, but instead, that we have waged a war against adulteration in every form, they are not slow in showing their appreciation of our course.

The London *Gardener's Chronicle*, an ably edited and high-toned agricultural paper, after giving a report of the South Kensington Show and the list of prizes awarded, remarks :

> Foremost in the order of arrangement is a counter devoted to exhibits sent from America by the editor of the BEE JOURNAL, of Chicago, among which is a very clean sectional super, made from one piece of wood, which folds up into a neat square box ; a queen cage for postal transmission, holding securely, as well as the queen, a sufficient supply of food and water to last during a journey of a few days. There is here also a one-quarter size model of the Langstroth hive, which, although there are numberless other patterns, is used by about half the bee-keepers of the States.
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> In the gardens of the Society, during all day of the show, was exhibited and explained at intervals the manner of bee-driving and other manipulations, which was as usual a great attraction ; and on the first day a competition among experts, as to who could in the quickest and neatest manner drive out the bees from a straw hive, capture and exhibit the queen, took place.
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> Mr. F. Cheshire, Mr. J. Hunter, Mr. C. N. Abbott, and other well-known bee-masters, varied the entertainment and instruction with short lectures on several interesting matters of bees and bee-culture.
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> Mr. T. G. Newman, of Chicago, President of the Bee Association of America, who is on a tour throughout Europe to the various bee shows, also gave two inspiring addresses, pointing out the American methods of obtaining marketable honey.
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> A very interesting paper on the "Plants and Flowers Most Worthy of Cultivation as Honey Producers," was also read by Mr. W. Ingram. A general meeting of the members of the Association, presided over by Bishop Tozer (in the absence of the Lady-

President, the Baroness Burdett-Coutts), also took place, and the meeting is to be brought to an end by the presentation of prizes by the Countess Brownlow.

To the indefatigable Honorable Secretary, the Rev. H. R. Peel, and the untiring committee, much praise is due for so successful a meeting under the depressing circumstances of the season.

The London *Times*, the most influential paper in Europe, gives a good report of the Bee and Honey Show from which we copy the following :

The prize for the best hive for the purposes of observation has been awarded to Mr. J. A. Abbott, the well known bee-master of Southall, for a hive of very simple construction, formed by putting loose frames in a box made of plate glass. Very noticeable in this observatory is the habit of the bees to cluster together for warmth on one comb, leaving the others entirely deserted.

For the best and most complete movable-comb hive, with covering, stand and facilities for storing surplus honey, the first prize is taken by Mr. J. M. Hooker, of Sevenoaks, with the improved Alexandra hive, a vast American hotel for bees. In the same class Capt. P. E. Martin, of King's Somborne, near Stockbridge, Hants, shows the simple bar-frame hive which he calls "The Sailor," used on a large scale in Hampshire to supply honey to the London market. One of the co-operative stores lays out £50 or £60 in a month for honey from Mid-Hampshire, made in these and the like hives from the sanfoin grown on the chalk.

Mr. T. G. Newman, of Chicago, exhibited some American "supers," which were a very great novelty. They are little sections of one piece of wood nearly cut through at three points, with enough wood left to serve as a hinge, and mortised together at the fourth angle. They are marvels of neatness and cheapness in construction. Some of the American "supers" cost only 24s a 1.000.

Mr. J. A. Abbott wins first prize for golden-banded Ligurians, Messrs. Neighbour and Baldwin tie for the brown English bees. In the general foreign class Messrs. Neighbour show Carniolans, Mr. J. P. Jackson Cyprians, imported from Cyprus by Cori, of Bohemia. No one sends Egyptian bees, but there is an Egyptian hive—a long, hollow cylinder rolled together out of Nile mud and straw—in Messrs. Abbott's collection.

The prize for the largest and best harvest of honey in the comb from one stock is taken by Mr. S. Thorne, of Baldock. It consists of 40 lbs. gathered on the borderland of Herts and Cambridgeshire from the blossoms of fruit trees, sanfoin and clover.

Mr. C. N. Abbott takes the first prize for rich heady mead, 5 years old, such as his Saxon namesakes may have quaffed. The same exhibitor wins the first prize for a collection of hives, bee-furniture, etc., masks to protect the face of the bee-driver, censers to smoke the bees for a time out of their hives, etc. Messrs. Neighbour show in the same class sprinklers to scatter salicylic acid through the hive and so avert the pestilence of foul brood, and a roller to turn a plain sheet of wax into the nucleus of a honey comb, and give additional regularity and precision to the marvelous building instinct of the bee. The honey extractors in which the combs are placed, and the fluid slung out of them by centrifugal force, are a modern invention and a most useful one, allowing as they do, the combs to be returned to the hives and the bees to be saved the many valuable days of summer which otherwise would be consumed in building up fresh combs. The first prize is taken by *Mr. T. W. Cowan, of Horsham, with the Express Extractor*, by means of which the honey on both sides of the comb can be extracted without touching the frames. Mr. Walton shows extractor which has the advantage of being covered and so protected from the crowds of curious bees who otherwise inspect the operation and become imprisoned like flies in amber in the run honey.

Mr. John Hunter, the well-known apiarian writer, whose "Manual of Bee-Keeping" has just been issued in a new edition, shows a good collection of microscopic slides illustrating the natural history of the bee. The first prize for the best display of British bee flora goes to Ellen Rooke, of Lymington. Most interesting specimens of flowers are shown in the class, crocus, the blossom of the withy, cinerarias, polyanthus, box, dandelion, wood anemone, celandine, berberry and the most serviceable of bee plants, blue borage, which hangs its blossom downwards, so that the bee can labor in it protected from the rain, and the honey is never washed out. An acre of borage feeds 100 colonies.

Mr. F. Cheshire, of Acton, exhibits beautifully drawn and colored diagrams of the bee and its relation to flowers, enlarged from the microscope. In these the fact is brought out that the drone cells are sealed with much larger and stronger fastenings than those the bees affix to the cells of female bees. M. Dennler exhibits the Alsatian bar-frame hive and the Alsatian bee-journal published in German and French at Strasburg.

In the honey fair, delightful white American supers of honey from Mr. Isham's are shown by Messrs Thurber.

In a tent on the grounds, where the Horse Guards' band played, a keen competition went on on Tuesday for the driving prize. The duty of inducing bees to leave their hives while the honey is extracted, or transferring them to a new hive, is that which most tests a bee-master's skill.

Mr. Ingram, of Belvoir castle (the Duke of Rutland's gardens), read an interesting paper on the flowers which the bee-master should plant to give his colonies food at all seasons.

On Wednesday, Mr. Newman, of Chicago, the official representative of the American Bee-Keepers' Association, gave a lecture in the tent on American bee-keeping, and denounced unsparingly the ordinary English method or want of method. Mr. Newman proceeds to the Perth Show, and thence to a great show at Prague, and others in France and Italy.

Concerning the exhibit of American honey, made by H. K. & F. B. Thurber & Co., of New York, the *British Bee Journal* remarks follows :

Another feature at the Kilburn Show was the American honey, about 2 tons of which were exhibited by Messrs. Thurber & Co., of New York, whose polite agent (Mr. Hoge) gave us every possible information. Some of the samples were very fine, and all looked beautiful ; though we must not forget that taste governs the idea of value in honey, and that few think alike on such matters. But the greatest feature of all was the visit on one day of their Royal Highnesses the Prince and Princess of Wales, their three children, and suite, and the deep interest they took in the various exhibits, not the least of which was the honey above mentioned, of which Mr. Hoge was the exponent. The Observatory hives, with bees all visible, held their attention for several minutes ; and, though we were not able to point out the queen of our hive, through the denseness of the mass of bees, their Royal Highnesses were gratified in that respect on reaching that of W. Freeman, Esq., whose hive afterwards received the first prize—a hive called by him the "Baroness," but which, after such royal notice, we should feel inclined to promote to the title of "Princess."

On another occasion the Kilburn Show was visited by H. R. H. the Duke of Cambridge and his grace the Duke of Sutherland and party, and they were highly pleased with a small case in which the queen, surrounded by her retinue, was exhibited by our junior, causing an observation to fall from H. R. H. on the monarchy in insects.

Caledonian Bee and Honey Show.

The Caledonian Apiarian Society's exhibition was held in two large tents in Perth, Scotland, on July 30 to Aug. 1, and was a decided success. The Dundee *Advertiser* thus describes the Show and its arrangement :

On the five previous seasons the Society has held public competitions in connection with the Highland Agricultural Show. The Highland Society, with their usual appreciation of whatever is for the good of the working classes, have not been slow in recognizing the claims of the Bee-Keepers' Association, and this year, besides giving a free stance, have voted a grant of £20 and a handsome silver medal. Hives and other apiarian appliances are on this occasion more numerous than formerly, but owing to the late and wet summer there is a falling off in the honey department. The leading attraction to the public at this show was the driving of bees from one hive to another, leaving the combs, honey and brood intact. It is astonishing to see with what ease and safety this operation is performed, the bees when well fed, not showing the least inclination to use their sting. From each hive so denuded of its inmates the queen, a drone and worker were taken, put in a glass tumbler and handed around for the inspection of visitors. A bar-frame hive, on the movable-comb principle, stocked with Italian bees, was brought into the tent, and the internal arrangements of the hive explained. The combs were also taken out one by one and exhibited. In the furniture tent is a large display of apiarian material, shown by Mr. W. W. Young, Perth, and Mr. Steele, Fowlis Easter. Mr. Steele also exhibits a machine for making impress wax sheets. This is an American invention, and produces sheets of wax impressed with hexagonal bases, on which the bees build beautifully regular cells.

Mr. Thomas G. Newman, editor of the AMERICAN BEE JOURNAL, Chicago, gave two lectures on scientific bee-keeping at the tent. He referred to American apiculture, describing the implements used there, and the scientific management of bees for the production of the most and best honey, and urged upon those interested to adopt the most improved methods, in order that they might have good results. This gentleman has been appointed by the American Bee-Keepers' Association to attend all the apiarian shows in Europe, and, comparing British and Continental methods of apiculture with the American system, will report to his own Society, which meets in October in Chicago, of which he is President.

The judges of the exhibits were Mr. Jas. D. Anderson, Dairy ; Bailie Langland, Kilmarnock, and Mr. Shearer, Yaster Gardens. Mr. Newman acted as umpire.

The *Scotsman*, a Glasgow paper, gives the following account of it :

Nothing more enjoyable could be conceived than the exhibition of honey, hives and bees, under the auspices of the Caledonian Apiarian and Entomological Society, which is being held in a marquee on the show ground. Formed about five years ago, for some time after its formation the Society and previously, the gentlemen to whom its existence is due had an uphill battle to fight. When the attention paid to the subject of bee-keeping abroad is considered, apiarian science can only be said to have been neglected to a marvellous degree in this country, but the measure of attention now being turned to bee-keeping promises to lead to most important results. That bee-keeping has received an immense impetus is evidenced by the fact that some of the members of the Society who were content to possess 2 or 3 colonies are now keeping 40 or 50. But in America the pursuit is followed on an immense scale, there being in some instances on a single farm over 3,000 colonies.

Mr. Thomas G. Newman, editor of the AMERICAN BEE JOURNAL, has been deputed by the bee-masters of America to visit Great Britain, and to inquire into the position of apiarian science in the home country, with a view of laying the results of his researches before the Bee Convention which meets at Chicago, in October of this year. He will visit Continental countries, and arrange co-operation with the principal Associations formed for the furtherance of bee-keeping. He is daily in attendance at the Show at Perth, and at 1 o'clock yesterday he delivered an interesting lecture in the tent on the subject of bee-farming, as conducted in America.

In considering the quality of the Show it must be borne in mind that the present season has been, to an extent almost unprecedented, unfavorable to bee-keeping. On this account the display of honey was very poor, as it was at Kilburn; but this was more than compensated by the display of observatory hives, bee furniture and all the appliances necessary to stock an apiary. There were only three glasses of run honey, but there was a good show of sectional supers. The observatory hives, 7 in number, were a source of great delight to the visitors in finding the queen. In the case where a queen was lost in transfer a princess cell was immediately begun. There was on sale a number of Italian queens, which are believed to possess greater vitality than home queen bees and to be capable of standing better our variable climate. The Highland Society offer a medal for a driving competition, extending over the 4 days of the Show, for the competitor who discovers the queen in her passage from one cell to another. and who in the quickest, neatest and most complete manner drives out the bees—the bees to be driven from the original hive.

To R. J. Bennett, Esq., of Glasgow, the Honorable Secretary, the Society is indebted for its great success. He is a gentleman of untiring energy and zeal, and withal a progressive and scientific apiarist.

The Scotch Society vied with the English Association in its enthusiastic reception of the American representative, and in its accord of honor to American apiarian inventions and its efforts on behalf of the production and consumption of honey. On Thursday evening it honored us with an excellent dinner, to which the prominent apiarists were invited. After which the toasts and speeches where highly complimentary to American apiarists and the editor of the AMERICAN BEE JOURNAL.

At the Society's business meeting the following resolution was unanimously passed: "*Resolved*, That our silver medal be presented to Thomas G. Newman, Esq., of Chicago, U. S. A., President of the North American Bee-Keepers' Association, as a souvenir of the visit he has honored us with, and for the valuable services he has rendered to the science of bee-culture and to the present session of the Caledonian Apiarian Society."

At the dinner party the course of the AMERICAN BEE JOURNAL in defense of bee-keepers and its denunciation of adulteration of honey was warmly indorsed.

Our visit to Scotland and our intercourse with Scottish bee-keepers will be remembered with pleasure while we live.

THE PRIZE SECTIONS IN LONDON.—The *Journal of Horticulture* (London) remarks as follows, concerning this manner of putting up honey for the market:

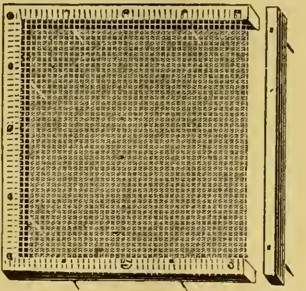
> Honey by English producers in sections, and, therefore, in salable form, next attracts attention; but here in quantity and appearance we are distanced immensely by America, Mr. Thurber showing no less than 1¼ ton in section boxes of 2 lbs. each. The color of this honey is not to be excelled. It is sealed throughout, and flat as a marble slab. Respecting its quality opinions differ. Here, the crucial point, England will probably be able to hold her own; while there is no reason that in flatness, and generally speaking in color also, we should not run abreast with the best American producers. These sections we commend to the attention of all who would enter the honey market. The tin separator has had hitherto almost all to do with the flatness of the comb, but with this exhibit is shown a specimen of cardboard which must, we think, supersede tin, and which is therefore worthy of careful inspection.

BINGHAM & HETHERINGTON HONEY KNIFE.—The London *Journal of Horticulture* remarks concerning this knife as follows: "This American uncapping knife has a thick blade beveled towards each edge, so as prevent the drag occesioned by a large surface of metal touching the comb. This knife should be remembered by all about to buy an extractor. It was exhibited by Mr. Newman, the courteous editor of the AMERICAN BEE JOURNAL, who is a visitor to the Kilburn Honey Show. He addressed in inspiring and eloquent terms the gathering in the manipulating tent; his remarks meeting with a hearty response. * * The Americans contribute among the well-known knick-nacks the Bingham smoker."

Queen Introducing Cage.

As the season has arrived when introducing queens is a somewhat hazardous undertaking, and as many may wish to supersede old or faulty ones, or introduce expensive, tested Italians, with a view to cheaply Italianize the apiary in the spring, we give an engraving of a cheap and infallibly safe introducing cage, which was suggested to us by Mr. Wm. Mapes, of Battle Creek, Mich., last spring, and which we have given a pretty thorough trial.

To make the cage, take four strips of wood about 4 inches long and ⅜ of an inch square; mortise both ends of one piece half way, and one end each of two others, so as to form a 3-sided frame; on this tack fine wire cloth, and through each side-piece drive two ¾ or 1 inch finishing brads, letting the ends project; drive two brads through the fourth or loose strip. Now, take from the brood chamber a frame of comb containing sealed brood, remove the queen from it, if there, then shake the old bees in front of the hive, and place your introducing cage on the comb, over sealed brood and a few cells of uncapped honey, letting the projecting nails run through the comb so as to hold the cage firmly and closely on the surface of the comb; then let your new queen and accompanying bees run from the shipping cage under the wire cloth, and quickly close by placing the fourth strip on the comb at the open end of the cage. Replace the frame in the hive, and the work is done. As the young bees emerge from the cells, they of course affiliate with the queen confined with them, and the newly emptied cells afford room for depositing eggs. At the end of two or three days she can be released by removing the end strip and all danger from "balling" is obviated. Should the weather be unfavorable for opening the hive, no harm will result from leaving her confined for a week. With this arrangement for introducing, we think the old queen might be left in the hive for a couple or three days, or until the new queen is released, thereby avoiding any depletion in strength of the colony, which is important, unless the colony be very strong. As this is an inexpensive cage, the whole cost not exceeding one or two cents, and but a few minutes time and little skill to make, we feel assured it will save many valuable queens and much disappointment, by making it public.



Iowa City, Iowa, Aug. 15, 1879.

T. G. Newman, Esq., Prest. North American Bee-Keepers' Society:—In compliance with your courteous invitation, I will read an essay at the National Convention in Chicago, in October; subject, "Increasing the Demand for Honey." Hoping the Convention may be in all respects a success,

I am truly yours, O. Clute.

[We are pleased to add the above, from so able a pen, to the valuable list of essays heretofore indicated. There is no doubt the Convention will be a success—*a great success*—for the valuable essays already provided will make it successful, even though it should embrace no other feature; and the bee-keeper will lose much who allows mistaken economy to keep him away. —Ed.]

☞ The Bingham smoker was not in competition at the various Honey and Bee Shows of England, but we took some of them for Mr. Bingham, as well as some of the Bingham & Hethington honey knifes, and exhibited them, and they were universally acknowledged to be the best things known to those who saw them. So much are they admired that some exact copies of the smokers are being made in England now.

National Bee-keepers' Convention.

Indications now point to a large and enthusiastic gathering of the bee-keepers of North America at their Fifth Annual Convention, to be held in Chicago, on the 21st of October, 1879. The interest manifested recently in England at the great Bee and Honey Show in connection with the Royal Agricultural Society's Exhibition, and which was shared by the nobility and even royalty itself, is a strong proof of the claims of progressive bee-keeping upon the public consideration. In Germany, great interest has been taken in these National Conventions for several years, until recently they have become monster mass-meetings (the meeting of 1878 being attended by nearly a thousand representatives), and so harmonious were their sessions that the apiarist looked forward to the Convention as to an extended and important holiday, in which duty was combined with pleasure, and both crowned with profit.

All admit that the scientific bee-keeper of America leads the Old World in successful bee-culture, but even here we have much — very much—yet to learn, and how can we so well advance ourselves in knowledge, and arrive at correct conclusions, as in these National Conventions, where each State, territory and district is (or should be) represented; where the novice can learn from the veteran; where the amateur can share in the experience of the specialist; where the unlearned can imbibe knowledge from the wisdom of the scientist, and where all are actuated by the one impulse—PROGRESS?

In North America, where the honey and beeswax product is estimated in round numbers at about $15,000,000 annually, and this, too, is capable of expansion to an almost fabulous amount, the bee-keeping interest is destined at no distant day to become a considerable factor in its productive wealth. There are many reasons why a National Association should receive the hearty and united support of every bee-keeper in the land, as a combination for advancement in scientific methods, and as a deliberative body for making combined movements in establishing standard markets, general usage, etc. Much is needed in the way of legislation for the prevention of the pernicious adulteration now so largely carried on. Revisions are required of the many railroad freight tariffs which now so mercilessly discriminate against the bee-keeper by charging double and even greater rates for the transportation of honey, hives, bees, etc. Many other measures require a general combination of those interested to effect reforms, which individual effort can never accomplish. To be sure, we now have our District and State Associations, and very agreeable and profitable they are in their tendencies; but are they broad enough in their scope and influence? Would they not subserve their purpose much better, were they one and all, component parts of a general body as broad as the continent itself, and as comprehensive as the science of bee-keeping?

These reforms and improvements cannot be brought about at a single session of the Convention; but with a good, big, rousing attendance at the next Convention, much can be done to put the matter in shape. A general comparison of notes and experience can be made; a cordial interchange of sentiment can be had between the greater and lesser lights in bee-keeping, and an *intente cordiale* established, which can be productive of only good, in the friendly recollections to be cherished thereafter. President Newman will have returned from the Old World's Conventions, and fresh in his mind will be the manners, experiences and incidents of the bee-masters of England, Scotland, France, Austria, Prussia, Denmark, Hungary, Switzerland and Italy. His trip will be an extensive one, and his aim is wholly to learn in what we can improve ourselves, either in bees or practice. His report will be full of interest, and his suggestions will be free to all. We may also expect most of our home-honored bee-keepers to be present.

The question for debate is not whether we can *afford to go*, but *can we afford to stay away?* The utility of our Conventions can be aptly illustrated by the skillful management of a colony of bees: To gather and store a goodly amount of honey, you would first crowd your hive with bees. Or, to make an application of Prof. Cook's comprehensive motto: "Keep all colonies strong!" let it be, "Crowd your Convention halls."

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☞ The editor of the AMERICAN BEE JOURNAL was entertained at the palatial residence of the Rev. Herbert R. Peel, the Hon. Sec. of the British Bee-Keepers' Association, from Saturday to Monday, July 26–28. Mr. Peel is one of the aristocracy of England, but one who feels a deep interest in all that pertains to the welfare of mankind in general, and is, therefore, deservedly honored by both rich and poor. He is thoroughly progressive in his views, and, being of unbounded energy, is just the one to make the British Bee-Keepers' Association one of the most successful institutions of Great Britain. Neither time, nor energy, nor expense is spared by Mr. Peel in making this Association a success. In fact, he is its very life and soul. Such excellent apiarists as Messrs. F. Cheshire, T. W. Cowan, J. M. Hooker, John Hunter, C. N. Abbott, Alfred Neighbour, Wm. Carr, R. R. Godfrey, W. N. Griffin and others are the chief members of the body corporate, and it is difficult to say what may not be done by such a body, impelled by such a progressive spirit as the Rev. H. R. Peel. It is needless to say that our visit with this gentleman and his excellent family was extremely pleasant. We enjoyed it beyond measure. "Abbott's Hill" is the name of his residence, and with its magnificent grounds (some 300 acres), commanding prospects of charming scenery, and delightful atmosphere, it is a fit place for the happiness of a family, where every wish is anticipated and every wish is enjoyed to its fullest extent. We had the pleasure of visiting "Shendish," the residence of A. H. Longman, Esq., who is a noted breeder of short-horns, hounds and horses. He has the "Old Berkley" pack of hounds justly celebrated for ages. They formerly belonged to Lord Fitz Hardinge, and his territory for them extended from London to Berkley Castle, in Gloucestershire. Mrs. Longman is a progressive lady apiarist, and of course we interviewed her bees. She had an agricultural show on the estate on July 29th, and had we not a previous engagement we should have attended it. We shall long remember our visit to "Abbott Hill" and "Shendish."

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☞ The festive "at home" at the fine residence of Thomas W. Cowan, Esq., at Horsham, near London, in the shape of a grand banquet was really one of the events of the season. Mr. Cowan is an enthusiastic apiarist and a very agreeable gentleman, and with his lady gave the opportunity for the prominent bee-masters of England to meet their foreign visitors, and have an enjoyable feast both of body and soul. The weather was delightful, and all appeared to enjoy the occasion to its fullest extent. The foreign visitors were Mons. Dennler, editor of the Alsatian *Bienenzuechter*, of Strasburg, accompanied by Col. Pearson, of Strasburg; Herr. C. J. H. Gravenhorst, of Brunswick, Germany, and one of the most prominent of German bee-masters, and the editor of the AMERICAN BEE JOURNAL. During this enjoyable occasion the whole company were arranged in a group, and photographed—the foreign visitors occupying the foreground, backed up by the English apiarists who were present. In the course of the afternoon the silver medal of the British Bee-Keepers' Association was awarded to each of the foreign representatives in honor of their visit and as a memento of the occasion. The speeches after the dinner were highly complimentary to America, her scientific inventions and practical methods in apiculture, and we have the satisfaction of knowing that British bee-masters are our steadfast friends, and may be relied on to do their part in the grand work of adopting scientific management both for bees and honey production. They will work side by side with Americans for great and glorious results—for we are brothers, all—with one language, one object and one interest. All honor is due to Mr. and Mrs. Cowan for projecting and carrying out to such an agreeable termination such an excellent international reunion of the friends of the honey-bee.

American Honey in England.

In the *British Bee Journal* for August, we find the following article and editorial comments:

> We beg to thank you, and through you the other members of the acting committee, for the fair and courteous treatment bestowed upon our display of American honey at Kilburn. The judges manifested an honest disposition to pin the colors where they rightfully belonged, and it will always be a pleasant recollection that after patient and thorough investigation the highest prize for the best pure honey was given to that we displayed. The quality of our season's shipments has been so frequently and seriously aspersed that perhaps a firm with less heart in the business would have folded their tents, like the Arabs, and silently stolen away. But we have faith in American bee-keepers, and knowing their honey to be a first-class, meritorious article, we have never abated for a day the struggle to place it in the very front rank; and now, after a hard fight, we are abundantly rewarded by an order from Her Majesty, the Queen, the quality of our honey complimented by both their Royal Highnesses the Prince and Princess of Wales, and by its being named the purest and best by such eminently respectable judges. Encouraged by this, and the satisfaction of the public as manifested by the constantly increasing demand for our honey, we have determined to locate a permanent branch in London, where we expect to build up and maintain a good trade in the products of the little almoners of nature, thus effecting a benefit to the bee-keeping industry, not only in America, but also in Europe.
>
> Yours faithfully,
>
> H. K. & F. B. THURBER & CO.
>
> London, July 12, 1879.

We received the above letter from Messrs. Thurber, the great American honey caterers for Europe, and we cheerfully publish it. We had "a good time" at Kilburn with Mr. Hoge, their agent, and did our best to improve the occasion, and with great pleasure acknowledge our obligation to him for his frankness in all matters connected with what has been a vexed question as between us and our American fellow-workers.

English bee-keepers have had great cause to deplore the fact that English honey merchants have for years foisted upon the public the tasteless outcome of Chili, as the finest product of the most celebrated apistical districts, and such "stuff" labeled "Narbonne," with sundry superlative adjectives appended or soaring in its behalf, led the English world to believe that such (properly named) "stuff" was the embodiment of excellence; whereas it was simply cheap rubbish put up in gaudy attire, and sold at large profit, to the great detriment of the English honey producer. It cannot be denied, and, indeed, Mr. Hoge candidly admits, that the earlier consignments of American honey had been "treated," such "treating" having been at the instigation of the dealer to prevent the honey from solidifying, he, the dealer, being perfectly cognizant of the fact, it having been so stated on his invoices.

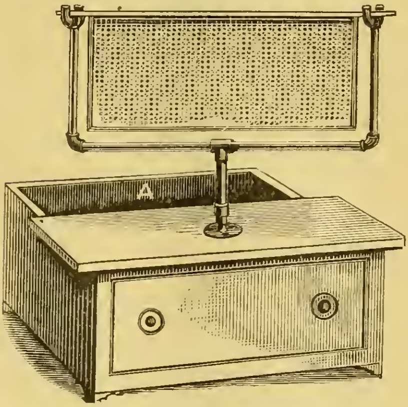
We do not wish to reopen the question, but with the treated honey in our mind we feel that we said no more than such transactions warranted, but with the present samples before us we have great pleasure in testifying to their general excellence. They vary as did the flowers in the various districts at the times when the nectar was gathered, and one may find in the "styles of honey," as the venders call them, flavors varying from a slight remove from golden syrup to the most delicate-flavored extract of white clover blossoms, the prices varying accordingly.

There are few people in the world who have not, at some period of their life—and many times, too often—written what they would, with a better knowledge of the facts, rather had not been committed to paper, and in this particular, *i. e.*, in regard to American honey, we are willing to withdraw anything which we have written which may be thought to impugn the integrity of Thurber's comb honey; it is beautiful in appearance, and sufficiently varied in flavor to please all tastes; and to increase its popularity we would venture to suggest that every package should bear a number or name, which would ensure a purchaser of honey of an approved flavor, being able at all times and places to get other parcels of the same precise quality.

Some of our readers are aware that a few unkind remarks have appeared in the *British Bee Journal* in reference to American honey. We did not think them of sufficient moment to make any remarks in the AMERICAN BEE JOURNAL concerning them, feeling assured that when Mr. Abbott had obtained a better knowledge of Americans and their products he would most willingly make amends. This he has done, in the above editorial comments, and we now safely say that no better understanding could be desired than now exists between the BEE JOURNALS of both countries, as well as the bee-masters of both continents. Certainly, this IS "*well.*"

McPherson's Frame Holder.

We give an illustration of a very neat and ingenious contrivance gotten up by Mr. G. McPherson, of Chicago, intended to hold a frame while undergoing the process of a critical examination to hunt the queen, discover eggs or larvæ, cut out or insert a queen cell, or for any similar purpose. The frame holder is made of gas-pipe, and is so constructed that the lower portion turns in a socket made of the same material, and can be easily swung around for the purpose of examining both sides without lifting the frame from the holder. The bottom is a broad disc with three countersunk screw holes, for the purpose of screwing on the top of a stand or box, which is provided with a single drawer about 8 inches wide, while the remainder (A) is left with an open surface, in which to hang the frames with bees as fast as examined. Of course the holder can be made any size as may best suit the hive in use.



"Afloat."

The subjoined paragrph we find going the rounds of the press, and copy it only to show how many errors can be embraced in one short article :

> Floating bee-hives are a success, as is proved by the experiment of an American honey dealer, who constructed a vessel to contain 2,000 hives, which he moved gradually up the Mississippi river from Louisiana to Minnesota during the spring and summer months, and back again as the autumn advanced, thus keeping pace with the blossoming of the flowers, and securing therefrom a good succession of blossoms at the height of the season all along the coast. The longest stay was made at St. Louis. Skilled attendants accompanied the vessel, and the honey was periodically extracted from the hives in a manner now largely adopted in America—by contrifugal force. The actuai yield of this gigantic apiary has not been stated but it is said to have been enormous, some hives producing as much as 200 weight of honey.

1. The success of the floating apiary consisted only in expending several thousand dollars, from which no adequate return was received.

2. There was no "vessel constructed to contain 2,000 hives." Mr. Perrine, to whom allusion is made, had about 600 colonies of bees in his floating apiary, and they were placed upon barges.

3. He did not go as high up the river as Minnesota with his bees. Finding the scheme impracticable, like a prudent man as he is, he abandoned it in the neighborhood of Grafton, near the mouth of the Illinois river.

4. Owing to a series of disasters, he did not and could not "keep pace with the blossoming flowers."

5. The "actual yield of this gigantic apiary" was not enormous. On the contrary, the losses of bees were so great from drowning and other causes, that the surplus above the wants of the bees was nothing worth while.

☞ As a source of profitable recreation, either for those engaged in professional pursuits or following the mechanic arts, we can think of nothing preferable to keeping a few colonies of Italian bees. The following paragraph we clip from *Moore's Rural:*

Bees, as requiring but little capital, afford a source of profit, and if closely observed, an endless amount of information and recreation. Where they can be had to work on shares, a few hives and honey boxes will be all that will be required for a start. The usual terms are to return to the owner at the year's end the old stock and one-half the increase.

Why Bees do Work in the Dark.

A life-time might be spent in investigating the mysteries hidden in a bee-hive, and still half the secrets would be undiscovered. The formation of the cell has long been a celebrated problem to the mahematician, whilst the changes which the honey undergoes offer an equal interest to the chemist. Every one knows what honey fresh from comb is like. It is a clear yellow syrup, without a trace of solid sugar in it. However, it gradually assumes a crystalline appearance—it candies, as the saying is, and ultimately becomes solid. It has not been suspected that this change was due to the photographic action; that the same agent which alters the molecular arrangement of the iodine of silver on the excited collodian plate, and determines the formation of camphor and iodine crystals in a bottle, causes the syrup honey to assume a crystalline form. This, however, is not the case. M. Scheibler has enclosed honey in stoppered flasks, some of which he has kept in perfect darkness; while others have been exposed to the light. The invariable results have been that the sunned portion rapidly crystallized, while that kept in the dark has remained perfectly liquid. We now see why bees work in perfect darkness, and why they are so careful to obscure the glass windows which are sometimes placed in their hives. The existance of their young depends upon the liquidity of saccharine food presented to them; and if light were allowed access to the syrup it would gradually acquire a more or less solid consistency; it would seal up the cells, and in all probability prove fatal to the inmates of the hive.—*Selected.*

Foreign Notes.

Translated from *L'Apiculteur Alsacien-Lorrain*, by Frank Benton.

Comb Foundation—No. 5.

Liepvre, September, 1878.

My Dear Friend:—By means of an awl I make in each side-bar 4 holes, 2 near each other in the middle of the bar and on the same horizontal plane, the other 2 in the lower quarter of the bar. These 2 holes separated from each other by about 2-5 of an inch on the outside of the bar, approach as they go toward the inner surface of the piece, and meet on the median line so as to form but one hole. Having thus prepared the frame, I place it with the top-bar down, and let an assistant, a child if need be, hold it in position; I take my comb foundation and place the upper edge on the top-bar, permitting the same fingers that hold the frame to keep it in an upright position within the frame. I press a coarse needle threaded with cotton thread through one of the holes of the side-bar from the outside toward the inside, passing it over the surface of the foundation, through the other bar (from within out), then around through the other hole and across the opposite face of the sheet, it comes, at last, through the first bar from within out, and the two ends are knotted on the outside. The foundation is then solid enough not to need holding. The same operation is performed to secure the comb in that part of the frame where the other set of holes have been made, after which I pour a little melted wax into the angles which the foundation makes with the top-bar of the frame, and the whole is finished. When everything is at hand five minutes suffices for the whole operation.

I use the wax only at the top of the sheet because some curvatures are seen, though less frequently, in the upper third of the frame. Near the top I leave 5 millimeters (nearly ¼ of an inch) play; below a little more. The threads hold the sheet closely, hence no curvatures are possible. The lower thread being near the bottom of the sheet of foundation, the latter will be no more inclined to bend about a horizontal axis than it is about vertical axes. The bees fasten the foundation during the first day or two and very soon destroy the cotton thread. You will offer as an objection, that in forcing the bees to gnaw away the two pieces of thread, I rob them of precious time. Come, come, my dear friend, do not spend time splitting hairs. In the first place, the thread is simply cotton, such as is used in crochet, and which is easily cut away by the bees; but why not remove it yourself as soon as you see that the industrious insects have rendered its presence no longer necessary? I must say, I have troubled myself little about this; such trifles which novices are likely to magnify, have never struck my fancy.

They are very easily broken. Yes, when one does not know how to handle them properly. They break when handling them if you work in the cold in winter; but who forbids your working in a warm room? They break down in the hive likewise, if you put them in no matter when or where.

As a general rule do not fit out with comb foundation a hive intended for the reception of a natural swarm. Besides the excessive heat which the bees produce by their agitation and which softens the wax, being enough of itself to cause the sheets to fall down, do not forget that the new swarm suspends itself in thick clusters on the first combs, no one of which will resist the weight. I have experienced this to my sorrow, repeatedly. Natural swarms are to be placed in hives whose frames are simply furnished with guides. At the end of 5 or 6 days half of these may be replaced by foundation. As I have not found it advisable to place foundation in the outside frame, next to the entrance, I advise you to exchange frames number 2, 4, 6, etc., for those furnished with foundation. Less breakage is likely by managing thus. As to artificial swarms obtained by a removal of combs from colonies, do not hesitate to employ foundation where up to this time you have only used empty frames.

Another recommendation: Do not transport hives whose frames are occupied with incompleted combs built on foundation. In this case, as before, the heat due to the disordered movements of the bees, would make of the whole a complete wreck. Remove such combs and fill their places with empty frames. If they are already occupied with eggs, exchange them for old combs taken from colonies that are not to be moved, or else transport them in a box by themselves to the place to be occupied by the bees, and then after 24 or 48 hours, that is, when your bees shall have had time to become quiet, put them back. These precautions are necessary in order not to have losses to mourn over; but admit that they are easy to take.

The bees build less readily upon them than upon a guide of natural comb. That depends upon the place you give your frames furnished with foundation, and also upon the condition of the colony. If the stock is weak a frame of foundation placed in the back part of the hive will remain there some little time before being touched by the bees; the same thing would be true of natural comb. The position of the frame of foundation is so unfavorable that even a strong colony would hesitate a couple of weeks before doing with it anything worth speaking of; generally the bees would merely gnaw the threads and cut holes through the foundation, which would not exactly aid in the completion of the work.

It is best then (except in the case mentioned in Letter 3, AMERICAN BEE JOURNAL, page 202, top of right-hand column) to suspend the sheets of foundation in the midst of the brood nest as far as is possible and between full combs. Here the work will be carried on with a rapidity proportional to the strength of the colony, and to the youth, that is to say, to the prolificness of the queen. I challenge any one to show me at the end of a week a comb built with only a guide-piece to start with, containing one-tenth the eggs which my comb foundation will contain, the surface of which will be nearly all built out.

I scarcely need to say to you that in order to secure rapidity in the building out of the foundation, you must refrain from putting in more than two frames of foundation at one time, or you will have too much unoccupied space in the hive, which will injure the brood by scattering the workers too much. It is likewise dangerous, for the same reason, to place two frames of foundation next to each other; separate them always by a full comb. There is one condition without which there can be but little success; I wish to insist upon this point, that is, to operate only with colonies having young queens. It has been observed, indeed, that the more prolific the queens are, the more industrious and inclined to build worker cells their subjects are. Now, here you offer them exact foundation and half the work done; with an old, failing queen the bees seem to feel that there are few zoosperme in reserve and that the greater part of the eggs will be unfecundated; whence, less activity; the affair is settled; and, furthermore, there exists an instinctive propensity to construct drone cells. Your worker foundation will then be worthless to them, I will say quite in their way, your bees will prefer by far a mere bit of natural comb in the top of the frame where nothing will hinder them from building down drone comb at their leisure.

I need hardly add that in order to give good results, comb foundation should be used when the bees are working freely and when laying is active, from the 15th of April to the 15th of August. Before or after this you will obtain no benefit—no more than with simple starters.

Thus you see, by following certain rules, in this as in other things, success is sure. I do not think M. Pellenc, little inclined to favor the use of movable combs anyhow, has carefully tested such a course as I recommend to you in this letter; his conclusions, taking for granted his intelligence and skill, would have been very different.

Here, my friend, is the case fully stated. It rests with you to decide whether a change of opinion is necessary. In my next letter we will talk about the adaptation of comb foundation to box hives, and we will examine together an objection, which, I believe, is brought up very commonly. I refer to the price of foundation—much too high, especially for the modest purse of the peasant. By giving to the latter a method by which he can manufacture his own foundation, perhaps I will still come out ahead in the discussion. I hope so, as I likewise hope you do not feel it necessary, financially speaking, to follow me through to the end.

DR. REISSER.

* * *

☞ The weather in Great Britain, as well as in Continental Europe, has been so wet and cold that no honey was gathered up to the end of July. There will be a good market for American honey in Europe this season, which with the limited honey yield in this country, will cause prices to advance.

Correspondence.

For the American Bee Journal.

Preparation for Winter.

G. M. DOOLITTLE.

Having our honey all disposed of, as given last month, and our nuclei united, we are ready this month to fix our bees for winter. In some localities, where fall flowers are abundant, it may be well enough to defer getting the bees ready for winter till next month, but with us we rarely ever get any honey after the 10th of September. We consider that the earlier bees are prepared for winter after honey gathering is over the better they will winter. The first thing to be done is to see that all have honey enough for their use during winter and spring, until flowers open again and this should not be less than 25 lbs., and 30 would be better. If we wish to feed in the spring, 20 will do. To ascertain the amount of honey, lift the frames from the hive and count off the number of pounds, or weigh a hive containing empty combs and add 5 lbs. to it for pollen and bees, then have your bees all weigh from 25 to 30 lbs. more than this. There probably is no better way to winter bees than to put them in a good under-ground cellar. Still, we prefer to winter about ½ in the cellar and ½ out on their summer stands, so as to be sure of being right somewhere, like the farmer who puts in a variety of crops, as all are not likely to fail the same season. Some years bees winter best in cellars, and again out-doors. To this end we built a cellar to hold about 100 colonies in a bank close by, and have had good success therein. The mercury in it has not been above 46°, nor below 41° since we built it, during the time the bees were in it.

Bees should be put in the cellar during the first half of November, and when the hives are dry and free from frost, if we wish them to winter well, for we cannot expect them to winter well if they are made damp from any cause whatsoever. Carry them in so as to disturb them as little as possible, and after they are in leave them quiet as you can until the pollen is plenty in the spring. Those on summer stands have all the boxes removed and the places used for the side boxes packed with chaff or fine straw. It should be well pressed in so as to fill into all the corners. Fill the caps also and press it in thoroughly, or use chaff cushions if you have them; yet I hardly think them enough better to pay for the cost in making them. During winter keep the snow away from them so the cap is always in sight. After our experience of last winter, we believe that bees should not remain out of sight in snow for a great length of time. Give them a chance to fly every time it is warm enough, remembering that a bee can get off melting snow as easily as anything else, providing it is warm enough to raise the mercury to 45° in the shade with it still and the sun shining; otherwise the mercury should mark 50° or above.

As to the safety of wintering we would say that if the bees have a chance to fly once in 5 or 6 weeks they will usually winter well; while if they have to contain their feces for 4 or 5 months there will be great mortality throughout the country. This constant eating with no chance to void the feces for 5 months in succession, during a cold winter on the summer stands, seems to destroy the vitality of the bees, and makes spring dwindling a necessity. Some feel disposed to call this a disease or the dysentery, but we can hardly see things in that light.

Now, we have given you in short how we conduct an apiary during the year, and with this comes the conclusion of our series of articles. Our next will be our report for 1879.

Berodino, N. Y., August, 1879.

For the American Bee Journal.

Comb Foundation.

JAS. HEDDON.

I have been using some few hundred pounds of the above, this season. I believe I have this year, for the first time, used *pure* beeswax foundation. If the 150 lbs. I had made up for me last year was pure, then there is a great difference in wax.

Now, I will tell you what my experience has been up to date during 1879, and state that the conclusions I have formed are about these: Whereas full sheets of foundation in every frame, for new colonies, will secure straight worker comb, I will advocate its use at 50c. per lb., whenever we can invent some practical and off-hand method of holding it in a true position all the time the bees are drawing it out, so that we can prepare our hives, run in the swarm and know that all will go straight, true and right in all kinds of weather. Until such method is discovered, I cannot advise the use of a piece over 3 inches wide in a frame, unless the apiarist has plenty of time that he can devote to working with the bees every other day.

With proper management the "sagging" that we hear so much about can be readily put up with, and will do no material injury, but the warping, twisting and kinking is the trouble which we must seek to obviate. This season I found that to mash a thin strip of wood about ¼ inch wide onto the bottom of sheet (which is cut 1¼ inches short in the Langstroth frame) would prevent waving or warping; but then one end would move out of the frame one way, while the other end went the opposite way. Then I cut a slot 3-16 of an inch wide and 2 inches long in the center of the lower end of the end bar, and let these stiffeners run into them. This was all right early in the season, but later when the bees began to gather propolis more profusely, of course, they glued these ends fast in the slots, just as I feared they would when I first got the thought. I will recommend this method to those who are not in a very gluey location and for swarms that issue early, or when honey is plenty in the fields. I have not experimented with it as much as I mean to another season.

I have reference entirely to the Wagner or Perrine foundation as made on Novice's machine, and also to the Dunham foundation, which I am testing on a large scale to satisfy myself of the comparative merits between it and the old style. The flat-bottomed wired foundation I leave out of the list, as its price is, in my opinion, beyond the practicability of its use, and I do not as yet understand that the point of the queen avoiding the wired cells and these wires destroying the brood if she does not, to be a settled problem. I have not tried it. I think that if foundation is made just right, of pure wax, and the conditions in the apiary are also right, that the bees will thin the base is certain, and that an expert will have trouble to find out whether any foundation was used or not. It is undoubtedly true that different runs of wax, disposition of bees, kinds of weather, make of foundation, etc., etc., fully account for the different conclusions and reports in regard to the use of foundation. I would say let us use no foundation for surplus honey, unless the conditions are right to avoid the "fish-bone" base and that the wax was made from comb as clean as honey. I allow all my extracted honey to be capped over, you will remember, and from these cappings I have made over 100 lbs. of clean, white wax and foundation this season. This we may put into sections in as large or small guides as we may feel that we can afford and have enough to go round.

The best plan for cutting foundation, that I know of, is to mark the patterns on a board (let your marks run out longer than the sheet) and lay from 10 to 20 sheets down true on this board, and then with a thin, wet knife cut clear through on said marks by the use of a straight-edge. I can cut more foundation thus in one day, than 1,000 colonies will need in one season.

The method we prefer to fasten it to frame or section is the "mashing down" system, shown me three years ago by Mr. Perrine, while visiting my apiary. One of my men here put the foundation into 200 sections in one hour. It will pull in two elsewhere before it will loosen from the bar when properly mashed. The bar must be dressed smoothly, and the putty-knife honeyed often when mashing.

Notwithstanding the extent of my interest in honey raising, I have not as yet purchased a machine, but expect to next spring, hoping that this season's experimenting will enable me to decide upon the best one.

Dowagiac, Mich., Aug. 11, 1879.

Bee Stings.

DR. GEORGE HOBBS.

Nearly 20 years ago I lived in Western Ohio. Our family consisted of my wife and myself, a little girl about 3 years old and a little boy a babe. One day my wife started on a visit on horseback intending to return in the evening. I helped her on the horse and went probably about 30 rods distance with her to let down the fence for her to pass through. During the time we left the children in the house, thinking they would not be likely to receive harm till I came back; but to my great surprise on returning to the house I found the little girl had made her way to the bee-hives, and I suppose had thrust out one of her arms into a hive as it stood up some distance from the ground, and in this way had stirred up the bees. When I took her into the house she was suffering extremely from the great number of stings which she had received. I took her up on my knee, and counted the number of stingers as I pulled them out from her face, arms and neck—I found 33,—and afterwards discovered that there were as many more in her hair.

Of course, this looked to me like a very serious injury—enough to cause her death, if I could not adopt some mode of treatment that would be very effective. I had not been in the habit of using medicine in my family in a long time, but depended entirely upon water. After pulling out the stingers, I stripped the child, filled the tub half full of water, right cold from the well, and placed her in it for about a minute; then took her out and wrapped her in a sheet and put her into the cradle. I repeated this process, bathing her about 3 times, 10 minutes apart, and had the satisfaction of seeing it alleviate her sufferings. After I had bathed her 3 times and wrapped her up warmly in the sheet, she dropped to sleep and did not wake for about 20 minutes. Then the fever and pain woke her up, and I bathed her again. After two more such baths she slept soundly, and on waking seemed to be nearly recovered. By the time her mother came home that evenieg, she was able to be around with scarcely any marks of the stings upon her person. I do not believe that any other than water treatment would have brought about such a good result in so short a time.

Drone-Killing Birds.

We find the following from the pen of a practical bee-keeper, in the *Pacific Rural Press:*

I have followed raising bees for the last 7 years, and made it my only occupation. I at one time thought the bee-bird was destroying my bees, and what to do to get rid of them I did not know, for there were hundreds of them in the spring building their nests in the oak timber, under which my bees are sitting. After watching them very attentively for several years, I discovered they did not eat the working bees, but fed on the drones. Around my house, and for 300 yards below and above, there are small oak trees, under which my bees are sitting. I can sit in my door and see hundreds of bees coming in and going out of the hives, and sitting on twigs are half a dozen bee-birds. They paid no attention to the working bee, but as soon as I would hear a drone I could see one of the bee-birds give a swoop and capture him. A drone is much larger than the honey bee and they make a louder noise, and can be easily seen and heard at a distance. In place of the bee-bird being an enemy to the working bee, he is their friend. He is a protector of the poultry yard; a crow or hawk dare not come near my premises. If a stray one should come this way, he will be certain not to try it again. The bee-bird is the king and terror of the feathered tribe. As soon as they and the honey bees kill off the drones, the bee-bird disappears and you see him no more until the next spring. Some people kill the bee-bird and examine his craw, and find bees in it, and that is sufficient evidence to cendemn him; but if they would be more particular they would find the food to be drones. This is my experience and my conviction.

For the American Bee Journal.

Another Bee Enemy.

A. J. COOK.

From some bee-keeper of Louisiana, whose letter I have mislaid, I have received another predaceous fly. This species much resembles *Asilus Missouriensis* (see Manual of the Apiary, fig. 108); but as will be seen (fig. 1) does not belong to the genus Asilus at all, but to the genus Erax. In this genus the third vein of the wing (fig. 2, C) is not forked as in the genus Asilus (see Manual, 4th ed., fig. 130), but a disconnected branch (fig. 2, E) is always present, which is connected with the 3d vein by a short cross vein. In the allied genus Promachus, which includes the Nebraska bee-killer; Promachus bastardi the 2d vein forks (see 4th ed. Manual, fig. 129). In Erax (fig. 3) as in Asilus Promachus and Mallophora (see 4th ed. Manual, fig. 128) the 3d joint of the antennæ ends in a bristle. The species of Erax are usually smaller than the one in question, which is drawn natural size in fig. 1st. Only a few days since I caught a species of Erax three-fourths of an inch long, which was sucking the vitality from a common house fly.

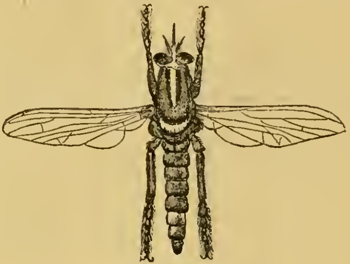


Fig 1

Erax.

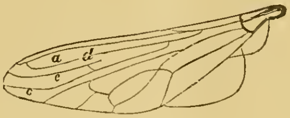


Fig 2

Wing of Erax.

I can find no description of the Louisiana Erax or bee-killer, so I subjoin the following. Length $1\frac{1}{4}$ inches. General color gray, with feet or tarsi, eyes, base of beak, and portions of the dorsal surface of each abdominal segment as represented in fig. 1 are black. The back of the thorax is dark gray, with two heavy black longitudinal lines in the middle, which are separated in front by a narrow gray line. There are numerous black hairs on the femurs and black spines along the tibia. The empodium (see 4th ed. Manual, fig. 131, C) is very slender. The specimen described is a female.

Fig 3

Antennæ.

We thus see that we have five genera of this family Asilidæ, whose species are bee-destroyers: Asilus—A. Missouriensis; Promachus—P. bastardi; Mallophora—M. orcina and M. bomboides: Laphria—L. thoracica, and now Erax—species unknown.

In the magnificent volume by Townend Glover, "Diptera of North America," there is figured the male Erax æstuans, which resembles the species in question somewhat, but the female also figured is very different.

◆

Queens Duplicating Themselves.

A. F. MOON.

In an article, about one year ago, in speaking of queen breeding, we gave our experience that we had thus far been unable to see a queen of the Italian race that would in every instance duplicate herself in "color," while we have bred from the best apiaries in the United States and both Italy and Germany, and firmly believe they vary as much in color as the human family. We also said in that article that we did not breed queens that would duplicate themselves every time in color.

To these facts exceptions were taken by several who wrote they had queens that would duplicate themselves every time: also my old friend Alley, from Wenham, Mass., loomed up and gave the readers of the JOURNAL what we had said, stating that he bred such queens and bred from no others, and hundreds of his customers could testify to the fact of his superior blood. Upon these statements we made a proposition to any one who would send to the editor of the AMERICAN BEE JOURNAL one such queen, to raise 12 queens from, and should the 12 prove duplicates of the mother, we would send him two fine colonies of Italian bees for his queen, etc.; and for causes best known to those parties claiming to have such "stock," no queen was sent, and the readers are left to draw their own conclusions.

Among the hundreds of friend Alley's customers, referred to as proof of this matter, if there is one of them that will please come forward and demonstrate the fact and give the price of such a queen, the bee-keeping fraternity would greatly be relieved from what many now consider a great humbug. Mr. Editor there are only two things to be considered in this matter, viz: If the advocates of these princesses have got them, they certainly must know it; if they have not, they know that also. And why the request should be for one year ignored, is now what many would like to know, and the people don't want A, B or C's say-so, they want the proof, and it only takes one of those $2 queens to immortalize themselves. What say you? Will you come to the front? If not, forever hold your peace, and draw in your flag.

PROPOSITION.

To any bee-keeper who will send to either of the parties named, Mr. A. J. Cook, Lansing, Mich., or James M. Marvin, of St. Charles, Ill., one pure Italian queen, which shall be put under a test of raising queens; shall raise 12 young queens, and should the 12 queens raised be duplicates of their mother in color, we will bind ourselves to pay $25 apiece for such queens purely mated. Further, the parties who make the test shall have the privilege of selecting a good competent judge, with him to decide the merits of the case; and still further, we will bind ourselves to pay the committee for trouble of making the test requested, to be made immediately.

The only test of purity in this matter we ever have found reliable and of true merit is, the uniformness of the worker bees; this is a reliable test. Of all the imported queens we have raised and seen this year, they vary in shade of color, while the workers are of the finest and most uniform in color and markings. We have bred some young queens from selected imported queens, and they also vary much in color. It's the experience of nearly all practical queen breeders that every succeeding generation, bred in this country, grows lighter in color—probably climatic influence.

Rome, Ga., Aug. 8, 1879.

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☞ During the month of September much patience is required in the apiary. As the honey harvest drrws to a close the bees become much more irritable.

For the American Bee Journal.

Bee Matters in Canada.

REV. J. ANDERSON.

Perhaps a few items from Canada anent bees may be of some interest to some of the readers of your valuable journal. There has been, during the latter end of last winter and the beginning of spring, a very great mortality among the bees in this province. This I believe was owing to the mildness and length of winter. My bees were 5 weeks longer in confinement last season, than they were the previous season. Four months and one week was a long time to be imprisoned. The result was I lost 4 colonies out of 54 put into winter quarters. Those 4 died for the want of food. They had not a particle to live on, and the stores of others were on the eve of being exhausted. In fact, they consumed a third more food than on ordinary winters.

I find the Langstroth hive, which is pretty well known in this province, to be a most excellent hive for summer use; but a most wretched concern for wintering. For over 12 years I have been experimenting with it, using every recent invention commendable in order to secure success in wintering, but I am sorry to have to say that I failed. It seems to me that it is too shallow to allow the bees to form themselves into a proper cluster, which is so essential for winters such as we have here; hence the bees are in a constant state of restlessness; either too warm or too cold, till finally they are siezed with the stillness of death while an abundance of food is all around them. But perhaps there is some special way for wintering bees in this hive; if so, the person who describes it in the JOURNAL will merit my thanks.

This season I met with rather singular things among my bees. I have just now a colony of pure Italians which lost its virgin queen about a month ago and refuses to raise one. Three times I gave them combs with fresh eggs to raise a queen for themselves, but they refused to do so. In the first piece I gave them, they commenced to build cells, but before they were sealed over they gave them up. In my last attempt to aid them, I gave them a frame full of fresh eggs and brood in all stages, but they made no attempt to build any cells. Being certain that they have no queen and as certain that they are unwilling to raise one, I purpose offering them a queen in a day or two, which may discover a little more of their freaks. But is not this a very singular case? It is in my experience.

Yesterday I killed a young and very beautiful Italian queen. She was just a month old, and had everything during her whole life as favorable as could be wished; nevertheless she did not lay one single egg that I could see. Her barrenness wore out my patience, and consequently I destroyed her. Indeed, her own subjects seemed to have been disappointed, for they kept a large number of cells empty for her eggs, and had them as clean as they could be for weeks, nor did they appear to be in great sorrow at her death.

A few days ago in making a young colony from a very strong one, I took the queen—to which I attach a great value because she invariably duplicates herself—with a large number of her bees, and placed them in another hive prepared to receive them, where I placed a frame with brood to make them contented in their new home. Having removed the old home from its stand to a new locality, I placed the new hive with queen and bees in its stead. In a week's time I visited the old home of my queen to see what number of cells I might expect. But to my surprise, not a cell could I see; but the combs were full of eggs. While looking at those eggs with feelings of disappointment, the very identical queen which I placed in my new hive passed before my eyes.

Tiverton, Ont., July 19, 1879.

For the American Bee Journal.

Virgil and the Honey Bee.

W. O. CARPENTER.

The July number of the AMERICAN BEE JOURNAL contains two very interesting articles, one from T. L. Fraser on "The Primitive Home of the Italian Bee"; the other from Prof. A, J. Cook on "The History and Use of the Bee Smoker." Both are more or less classical productions, and at once reminded me of my school-days, when Virgil is read more as a task than a pleasure; it will nevertheless well repay any of your classical readers to peruse the 4th book of Virgil's Georgics, which is entirely devoted to the culture of bees. With regard to the primitive home of the Italian bee, as Virgil was then residing in Etruria, and his time a good deal divided between Rome, Brundusium and other Italian cities, I take it he had every opportunity of seeing and learning all about the nature, quality and location of the Italian bee, which he most emphatically describes in opposition to the common or black bee in the following lines, first alluding to the kings after severe combat: "Having withdrawn the kings from the battle, kill the one which seems of the most degenerate kind, and let the more valorous reign alone in court. The one will be glowing with refulgent spots of gold, for there are two kinds. This is the better distinguished both for his form, and gemmed with glittering scales. The other is hideous with sloth and ingloriously drags a ponderous stomach." As regards the progeny: "The others shine and sparkle with brightness, burnished over their bodies with gold and regular marks; these are the best breeds; from them, at the stated time of the year, you will press the luscious honey." I think, therefore, there can be little doubt as to the color, quality and location of the Italian bee. Virgil has no doubt fallen into some inaccuracies, such for instance as calling the queen the "king," being under the impression the workers were all females, and imagining that bees were manufactured from substances gathered in the fields; but on the whole it exhibits a surprising degree of knowledge for that period. He mentions even the method was adopted of clipping the queen's wings to prevent swarming: "But when swarms fly fitfully and sport in the air without any fixed intention, disdain their hives and leave their abode cold, you will restrain their unsettled minds from this useless play; nor is it any great labor to curb them, you have only to clip the wings of their kings,"

Then, again, in reference to Prof. A. J. Cook's paper on "The History of the Bee Smoker," Virgil has the priority over Columella, the great naturalist of Cadiz, whose writings, are some forty years subsequent to Virgil. One would almost imagine Virgil was describing the rag smudge so recently in use: "If at any time you intend to rob their narrow mansions and the honey preserved in their treasures; having first sprinkled them with a draught of water, extend your hand and with your mouth blow forward the persecuting smoke." It does not appear that killing the bees for their honey was practiced at that period.

The *finale* of the book is perhaps the most amusing, where the poor shepherd Aristeus, having somewhat interfered in the plot of rescuing Euridice out of the infernal regions by her husband Orpheus, had all his bees, which were his only means of support, destroyed by the nymphs of the goddesses.

Orpheus tickled his harp so well
He lured Euridice out of hell;
Had she been as good as she was fair,
How the dickens did she get there?

Well, the upshot was, the poor fellow after great supplication had to propitiate the gods by the sacrifice of four young bulls and four two-year-old oxen, with orders to stop up their nostrils and revisit them in fourteen days, at the expiration of which their decomposed carcasses emitted clouds of bees, and he was again made happy. No doubt wild bees having been known to make their dwelling place in the skeletons of dead animals, gave the origin to this legend of the generation of bees, and to show how this false notion prevailed, in a herbal printed in London, in 1665, there is a large engraving representing all the stages of this method, with directions in sober seriousness.

I fear I have trespassed too much on your valuable space and indulged in a subject that may be uninteresting to the generality of your readers. If so, you know what to do with it.

A singular circumstance occurred as I was taking a very late swarm this afternoon. One of the bees stung me on the ear very severely; my daughter, who was standing by me, pulled out the sting, which fell upon her wrist and stung her. I have often noticed a convulsed motion of the sting after extraction, but I should hardly suppose it would retain sufficient muscular power to sting a second time, but it did. Being late in the evening, the bees were unusually savage, and my gloves were literally covered with stings,

Lawrence, Kan., July 12, 1879.

For the American Bee Journal.

What Is the Italian Bee?

THOS. L. FRASER.

In considering the ethnological and commercial history of the Greeks and Romans, I am induced to believe that the Italian bee is a hybrid, the product of the German and Egyptian varieties. My reasons for this are the following: The black bee from its spontaneous emigrating habit, from the earliest dawning of their history, accompanied the Germanic races and probably preceded them in occupying the forest wastes of Western Europe: and as the Greeks, Romans, Ionians, etc., were of Caucasian origin, it is probable that the black bee preceded all others in those countries, but when Cecrops founded Athens and introduced art, refinement and letters into Greece, it is probable that the Egyptian bee, already domesticated, was introduced by their masters and naturally fraternizing with the black bee, a hybrid was the result.

Again, the Egyptian bee held in the

domestic state by the Egyptians, Phenicians. Hebrews, and perhaps Chaldeans, and lastly by the Carthaginians, were introduced by the last named into Sicily, Spain and such other countries of Europe as were conquered by them, and so ample opportunities were afforded hybridizing with the black bee already domiciled in those countries. This presumption could be so easily tested by importing the Engyptian bee into this countty and Europe, that I have been induced to offer these thoughts that should you deem them worthy of a place in the JOURNAL, some of your correspondents and readers, better qualified and prepared than myself, could, if so disposed, test the supposition.

The similarities in color, appearance, form and habits of German, Italian and Egyptian varieties, when taken in connection with these facts in history, confirm one in the belief that it would be well worthy the effort on the part of the scientific apiculturist to test the matter, and to show (may be) by actual experiment the origin of what is considered a distinct variety of the bee. Had Mr. C. O. Perrine imported the Egyptian bee for the purpose of trying his experiment with the floating apiary, I am induced to believe that its results would have been more flattering and encouraging.

Among the many varieties of Apis mellifica kept by bee-venders and the amateur and scientific bee-culturist of the United States, none I believe have imported the Eygptian bee either for the purpose of experiment or profit.

Santa Ana, Cal., July 21, 1879.

For the American Bee Journal.

From Southern California.

G. F. MERRIAM.

It is now universally conceded that Southern California will not only not produce any surplus honey for market, but that one-third of the colonies will at the end of the season be entirely out of honey. The season has been very much like that of 1877, when so many starved out. There has not been a more brilliant prospect of a fine season within my knowledge, than we had up to Feb. 20th. We had but 3 rains last winter, one each the first of January, February and April, giving us a total at my apiaries of only 7½ inches. The spring passed without any of our usual fogs or dews, and instead of rains we had the resultant dry weather from storms on the desert, notably one the last of March and the other June 1st. During the first one the thermometer went up to 100° in the shade, while the last it was 110° with not a particle of moisture in the air. White sage was then in full bloom, but this storm burnt it out, as well as nearly all other honey plants.

I do not recall any discussion in regard to the use of water by bees during very dry weather. Surface water is a long distance from my home apiary—so far that I have always watered the bees from troughs made on purpose. During one of those dry days, when the mercury stood over 100° from 9 to 4, they carried 42 galls. of water from a trough 8 ft. long and 14 in. wide, and they got water from a dozen other places at the same time—were coming into the house after it and perfectly besieged the well water tubs and barrels. Is it not possible they drink it like animals and carry it to cool their hives after the manner of *other* people sprinkling the floors to cool their house? It is fortunate in one respect that this is an off year, for the price of honey is so low that if we had produced a crop this year we could not have got the cost of the boxes and cases back.

Good extracted honey for some time has been 3c. in San Diego. Our barrels cost us $2 each and hold an average of 270 lbs. net. Add to this the freight on the barrels to and honey from our apiaries, the honey does not net us quite 1⅔c. per lb. It strikes me that such prices, with 5c and 7c. for comb in section boxes, the business as a medium of providing the apiarist with the means of gaining a living for himself and family is played out. It is below the cost of production of manual labor, if skilled labor is of any value in these days.

It will result in driving all amateur bee-keepers out of the business, leaving it exclusively among practical men who make it a business. During the flush years of 1872–3–4 very many of the business and professional men of the time bought bees and hired men to attend them. The result has been even more disastrous with them than with the rest of us who make a profession of the business.

Large quantities of honey were shipped last year to England and Germany under the impression that in that market a fair price could be realized. Extracted honey in barrels was shipped around the Horn on sailing vessels, but so far as I can learn, the venture has not fulfilled the anticipations. One German house made an advance of about 5¼c. delivered in Liverpool, England. Consignees then had to pay freight about as follows: ½c from the apiaries to San Diego, the same by steamer to San Francisco and the same again to Liverpool or Hamburg, making 1½c. total, or giving them 3c. net counting barrels at cost. I understand that even this amount is not likely to be realized, and that consignees will draw back for amount of over-drafts.

Americans as a rule are too persistent and enterprising to allow one mistake or disaster to deter them from future efforts in the same or other directions in finding a market. Our barrels are all made of sugar pine, and until lately bound by 14 wooden hoops. Now there is a new kind with a less number of iron hoops.

Last year during the height of the season one concern in San Diego desiring to have a part of the barrel trade, which was then in the hands of a responsible commission firm, tried to bulldose them into dividing the profits under a threat of throwing another make on the market. Not succeeding, they brought on a large lot of fir and spruce barrels which never could be made tight. I was swindled with a lot of them, and after pouring about a dollar's worth of wax in each, sent off some, but they leaked all the way to market. All kinds of receptacles for honey have been tried on this coast, and nothing has been found except tin or sugar pine which will hold it. We usually take out the bungs and tip at an angle of 45°, then pour about half a teacupful of melted wax in each end, turning the barrel around so as to wax the entire chine. Then, unless we leave them out in the sun or fill too full we have no trouble with leakage.

I saw a new extractor in San Diego recently, intended to extract 6 frames at once without turning. Each frame is put between 2 wire screens which hang like a door. To turn, one of these is turned half way when all can then be turned to place. When perfected it will be the means of expediting the work exceedingly. The gearing is so constructed as to prevent all wabbling, which now occurs in other machines when combs of unequal weight are put opposite each other.

There is at this writing a vast number of flowers, but they secrete so little honey that the bees get very tired while trying to get a load. In passing a mass of flowers one will see the bees rise languidly and lazily as if they thought it mattered little whether they found another flower or not. They seem completely discouraged, and lose many of the usual attributes of bees.

I noticed in a late JOURNAL that honey from horehound is reputed to be bitter. That plant grows here in places near the coast, and will thrive almost anywhere. It is so easily grown from the seed that I have a quantity gathered, intending to sow it on some waste land provided I can learn that it will not prove bitter. Who of your subscribers can answer this question?

I had occasion to remove some of my lightest hives a few miles, in the hope that they might get enough to go through. They did very well—quite contrary to the predictions of some who told me they would use up all they had, and not do as well as if let alone.

I notice a complaint that veils injure the eyes. It is so in my case as well as others here who use them nearly all the time. Some fasten a piece of glass in front to give a clearer view of the work as well as to obviate the strain on the eyes.

I inclose some seed of the blue sage, button sage, purple sage and several other named sage. It is our best honey plant. The only objection to it is, it comes on during swarming time when its wonderful product cannot be utilized to advantage. It will stand quite cold weather when in bud.

San Luis Rey, Cal., July 20, 1879.

[The seed came safely to hand. A portion has been forwarded to Prof. Cook, the remainder we will plant this fall and in the spring, as suggested by Mr. Merriam.—ED.]

For the American Bee Journal.

Honey Resources of Florida.

A. B. BEALL.

Probably a few items from the "Land of Flowers" may be of interest to you and your readers. Practically I am a novice in apiculture, having but recently commenced the business on a small scale. I have read and studied the standard authors, Langstroth, Quinby and Prof. Cook, and back numbers of AMERICAN BEE JOURNAL. Considering your advice as *ex cathedra*, I have adopted the Langstroth hive. With my short experience and a careful study of the description of many kinds, and observation of some of them, I am convinced that it combines all the essentials to successful bee-keeping in this climate. But I wish to write particularly of the adaptability of this section for the business. Perhaps you will think my views necessarily crude, but they are based upon the opinion of those who have been keeping bees in box hives for a number of years, as well as upon a few months' personal experience and observation, and should, therefore, be received *cum quano salis*. The box-hive men say that 50 lbs. of honey per hive is an average yield for good years. You can probably determine from this data what would be the yield with improved hives and good management.

I saw a statement in the JOURNAL from a Mr. Bayard, of this county, to the effect that bees could not make comb here after June 1st. I do not wish to discredit Mr. Bayard's statement, which is douhtless true when applied to his and similar localities, but it does not apply to the one in which I reside. It is a well-known fact that bees can build comb when they can obtain honey, even when confined, wax being simply a secretion from saccharine matter. But to facts. My bees have been building comb quite rapidly during the past and present month. A case holding 8 sections put in the brood chamber of one of my hives about the 1st inst., was filled with comb and honey in 10 days. A colony hived from a tree a few days since, are now building comb satisfactorily.

There are only certain localities of this county that are naturally adapted to bee-culture. I have little or no acquaintance of the State beyond the limits of Orange county, though I think the statement will hold good of all peninsular Florida. A far greater area of this county is covered with pine timber, interspersed with beautiful clear-water lakes. This portion is well adapted to the growing of semi-tropical fruits, and affords delightful places of residence for those engaged in their cultivation, but it is not at present suited to bee-keeping. When the numerous orange, lemon and other tropical fruits, now being cultivated, come into bloom and bearing, its character will be materially changed and bees may be kept with good results. The best results are now obtained in the vicinity of hemlock and swamp lands, which generally border the large lakes, the St. John's river and smaller streams.

I will give you a list of the honey-producing plants and the order and duration of their blooming, so far as I am acquainted with them from a limited and casual observation: January—Maple, about a month. February—Pennyroyal, about 6 weeks; orange and lemon, 1 month; willow, 3 weeks; oak, dewberry, 3 weeks. March—Alder, nearly all the time; oak; blackberry, about 3 weeks. April—Blackberry, alder. May—Low palmetto, until July—very nice honey; magnolia, 6 weeks; variety of bays, 1 month; gallberry, 3 weeks. June—Low palmetto, magnolia, bays. July—Cabbage palmetto, about 1 month—very nice honey; partridge pea, duration of bloom unknown.

The pennyroyal, so-called by the natives, is a small plant, very numerous in places, having small blue flowers on a cone-shaped burr, stems rather trailing, no limbs, short narrow leaves on the stems. It seems to be very rich in honey by the number of bees frequenting it. The odor of the plant is somewhat like pennyroyal, hence its name. I regret I did not send some specimens, while in bloom, to Prof. Cook to ascertain its true name. There are a great many other flowers of secondary importance with whose names I am unacquainted. Those that bloom the remainder of the year I am also unacquainted with, having never observed before this year. Goldenrods are numerous, and I think bloom in August and September.

When the millions of orange and other semi-tropical fruit give their full capacity of their sweets to our bees, in addition to flowers already named, do you not think we can compare favorably with other boasted honey producing regions of the Union?

It is needless to say that articles on wintering and feeding and descriptions of chaff hives, are read by us simply to satisfy curiosity. It is exceedingly rare that our bees are not on the wing gathering stores.

Not having tin convenient, I used recently paper for separators, putting it perpindicularly around the case and prize boxes, leaving the usual space in each side of boxes. Laterally it would not hold the boxes securely.

Clifton Springs, Fla., July 22, 1879.

P. S.—My bees would not allow of the use of paper for separators, having gnawed it in pieces and carried it out of the hives. Bees are industriously gathering honey from cabbage palmetto, cow peas and many smaller flowers. The partridge pea, which is very plentiful, does not bloom till next month.

Clifton Springs, Fla., July 26, 1879.

From the Michigan Homestead.

Style More Important than Quantity.

FRANK BENTON.

With most bee-keepers the one object seems to be to produce the largest possible amount of honey.

Important as a large crop is to bee-keepers, we believe there is another thing of even greater importance, and that is to get their crop in such a shape that it will be of ready sale.

During the last fall and winter the writer has seen honey bought by retailers at from 10 to 12c. per lb., to be sold again at 15c. The same dealers refused honey which was equally good, when it was offered at 5c. per lb., because its appearance was such that they could not sell it at any price. Here we see two lots of honey side by side, one selling briskly while the other goes a begging. One producer gets paid for his work while the other sets up the cry of "hard times" and "over-stocked market."

The United States uses less honey than almost any country; the chief reason of this is, that it has never been given its place among other edibles.

This is not the fault of store-keepers, for they are always anxious to keep whatever they can sell at a profit. All kinds of groceries and fruits, both fresh and canned, are put up in the most tempting styles and forced upon the attention of dealers, who in turn urge them upon their customers.

In this way very much more is sold than if the trade were not directed by tact and pushed by energy and intelligence. A large part of this tact and intelligence is directed to make goods convenient for the dealers and attractive to customers. And these two things are absolutely necessary to success.

Now let us look at the honey trade and see how much it has been helped along by the intelligence and business skill and energy which have been the means of building up other trades.

The tact and taste which are employed in preparing most goods for the market, may be even the most common commodities, look attractive and in this way increase their money value. Almost every kind of goods, when they are prepared for the market have the advantage of being prepared in the style which will best present their peculiar desirable good qualities to the purchaser.

The style in which goods are put up is as important to the showing off of the goods as a frame is to a picture.

And different kinds of goods need different styles of putting up just as much as different pictures need different styles of frames.

Preparing all kinds of goods for the market is found to pay, and this in the face of sharp competition; in fact, competition compels it, for other things being equal, the thing which is the most attractive sells the quickest.

Honey raisers have treated with perfect indifference this well-established condition of trade, and with the inevitable result of being left far behind in the market. In fact, they are not even noticed by many of the people who should be their customers. This state of things is their own fault, for instead of studying the wants of the market, and making a business of supplying them, they have steadily adhered to their old methods of producing and marketing their honey.

Thus, while bee-keeping and honey raising has been standing still other lines of similar goods have advanced and taken the place in the market and on the table which honey should occupy. There is at present much of last year's honey unsold; commission houses are offering it at low figures. But it should be noted that that which is such a drug in the market in every case, is that which is put up in the old-fashioned way; if it had been put up in tempting and attractive shape it would have sold as readily as that which did sell; for the demand is as large as the supply for honey or any other first-class article.

Bee-keepers should influence those in the business to put up their honey in marketable shape. If this could be effected honey, both comb and extracted, would take a higher rank as an article of merchandise, for the demand would be more steady and assured.

From the Fruit Recorder.

Transferring Bees.

L. E. BEMIS.

The best and safest time to transfer bees from the box to the movable-frame hive is on a warm day when apple trees are in blossom, for at that time there is but little honey in the hive and the old bees are out in the field among the blossoms, but it may be done at any time when drones are flying. I say when drones are flying, because if we do it at a time when there are no drones, and we should happen to kill the queen, they cannot raise one which would be of any use and the swarm would soon dwindle away. It is not as bad a job as one not accumstomed to handling bees would imagine.

Go to the hive from which you wish to transfer the bees and puff in a little smoke, just to drive them up among the combs; then take the hive and turn it bottom side up, and place the box of another hive on top of it; wind a cloth around the two so as to keep all the bees in and also exclude all light from the hive. When well secured, commence drumming on the sides of the hive with a stick. Drum smartly for 3 or 4 minutes, then rest a few minutes and drum again. Follow this up at intervals for 15 or 20 minutes, when usually the queen with most of the bees will be in the box on top of the hive. It is well to have a glass in one side of the box covered with a slide, so as to see when the bees go up into the box. Now take the box off the hive and set it on the stand from which the hive was taken. Leave an entrance open similar to the one in the hive, and the bees which are flying will return and enter.

Now, take the hive to some convenient place. It may be done near the stand, but if the other bees are about it is better to go into some shed or room where we will not be troubled by robbers. Have a table and spread several thicknesses of cloth on it to lay the combs on. Take off one side of the hive and cut off the cross-sticks and remove the combs one at a time and lay them on the cloth upon the table and cut them to fit as nearly as possible to the frames. They are fastened in the frame by small strips of pine, 3-16x⅜ in., and long enough to reach across the frame, placing them each side of the comb in such position as to hold it in place, and tie the ends with strings. Thorns may be used to good advantage in some places by making a hole through the frame and putting in the thorn. Use all the pieces of worker comb that are large enough to fasten in the frames. Quite small pieces may be used and the bees will soon unite them so they will be solid. Throw away nearly all the drone comb, as many drones are useless. The drone comb is known from the worker by the size of the cells, which are larger than the worker cells, and when drone comb is capped over the caps bulge out and look uneven, while the worker brood will be nearly even. As you fill the frames, place them in the hive, keeping the brood together if the weather is cool, but if you have a good strong colony and warm weather, it will do to place an empty comb between two cards of brood, and the queen will usually soon fill it with eggs.

When you have all your combs in the new hive, set it on or near the old stand. Smoke the bees in the box, and give it a sudden jar so as to break the hold of the bees, and empty them into the top of the new hive, directly on the frames. Cover them over and they will go down among the combs and soon be about their usual business. If other bees are near, it is best to give but a small entrance for a few days; only giving room for 1 or 2 bees to pass at once, for the colony is in a poor condition to defend themselves against robbers. After a few days the strips used to hold the combs in place may be removed, as the bees will have fastened the pieces of comb together and stuck them to the frames.

Transferring may be done without drumming the bees out into a box just as well, only more bees are in the way, and there is more danger of killing the queen. Use smoke enough to keep them quiet, and as you take out a piece of comb, brush them off with a feather into the new hive, and proceed as above directed. If other bees are near, it is well to shut them into their hives while you are at work, especially if they are not gathering honey plentifully, as they sometimes will make trouble by robbing. Be careful to clean up all the honey that drops near the hive.

From the Prairie Farmer.

Watch the Swarms.

MRS. L. HARRISON.

Eternal vigilance is the key-note of success in bee-keeping. My "partner" often says to me, "Why don't you let the bees alone? I don't see any use in your pulling the hive all to pieces, making the bees cross, getting stung, and pretty near roasting yourself this hot weather. Let 'em alone; let 'em be." I confess to a weakness for wanting my own way, and I generally manage to get it as far as the bees are concerned, if the minister who married us did have "obey" in the marriage ceremony.

I can see the use of pulling hives to pieces, if my "partner" cannot. We often hear of persons who have had such a splendid colony of bees destroyed by moths. They say that "it was so strong that it swarmed three times, and then late in the summer the moths destroyed them." The poor, innocent moths were not the cause of their destruction; they only moved in because the bees could not keep house. This colony had failed to obtain a fertile queen after swarming, and as the life of worker bees during the busy season is estimated to be about 90 days, they had all died, and no more were raised to take their places.

Every colony that has cast a swarm should be examined in 21 days, and if no eggs or larvæ are found, the colony is queenless, and there is no material in the hive from which one can be raised. If there is no laying queen on hand to give such a colony, part of their frames should be exchanged for those containing eggs and larvæ with another colony, and then they will have material to raise one. In 10 days exchange the remaining frames so that the bees will have larvæ to care for, and will not desert the hive when the queen leaves on her bridal tour—and if she should be lost, have material to raise another.

It is poor economy to let a hive full of comb remain all summer with only a corporal's guard of bees; better put back all swarms but the first, after cutting out queen cells; if this cannot be done, put in some new swarms. We know of a bee-keeper who hives his after-swarms in small boxes and piles them on such a hive to mark the location, and when he has leisure, empties them before the hive, which they will enter peaceably—sometimes putting in as high as 7 after-swarms.

In swarming time, it's a good idea to save surplus queens from the best colonies, and then they will be ready for use if any vacancies occur. Before an after-swarm is returned, take out a frame containing a queen cell and put it into a hive with another frame containing hatching brood; put in a division board, and the little colony will soon have a fertile queen.

Peoria, Ill., August, 1879.

Uniting Bees.

C. F. D.

As the great secret in bee-keeping is strong colonies, I would advise you to unite all your weak ones by putting 2 or 3 together. Uniting bees is much like introducing queens, inasmuch as no fixed rule can be given for all cases. If your bees are in frames, it is a very simple matter to lift the frames, bees and all, out of one hive and set them into another, having first removed one of the queens, where the two are situated side by side. Usually there will be no quarreling if this is done when the weather is too cold for bees to fly, but this is not always the case. If one colony is placed close to one side of the hive, and the other to the other side, and they are small enough for a vacant comb or two between them, they will very rarely fight. After 2 or 3 days the bees will be found to have united themselves peaceably, and the brood and stores may then be placed compactly together. If there are frames containing some honey that cannot be put in, they should be placed in an upper story or in the cover of the hive, and the bees allowed to carry it down. You should always look at them 20 or 30 minutes after they are put into one hive, to see that all is right. If you find any bees fighting give them such a smoking with cotton rags that they cannot tell "which from t'other," and after 15 or 20 minutes, if they are fighting again, give them another "dose," and repeat till they are good to each other. I have never failed in getting them peaceable after 2 or 3 smokings.

If your bees are in box hives, I should say your first job on hand is to transfer them into frames, but if you will not take the trouble to transfer them, you may unite two or more weak colonies thus: Drive the bees up into an empty box (as in transferring) from the hive containing the least combs, and shake them in front of the hive into which they are to go; then smoke them with rags to give them all one scent. Some of the bees may return to their old stand the next day, where you should have a box to catch them; then take them back to their new stand and they will mark their new location, and you will have no further trouble.

Nile, Ontario.

How to Winter Bees.

E. RODMAN.

To winter bees well and free from loss by dampness and mold, three things are needed —a steady, low temperature, fresh air and silence.

The low temperature may be secured by properly covering the hives in long rows; first with boards set up stout, meeting above the top, and the boards covered again 12 to 15 inches of earth thrown over, and during a freeze watered and frozen; then covered again with straw or corn-fodder to prevent thawing. Bees so cool and quiet remain in rest, eating very little and unaffected by outside changes.

To secure the fresh air, so indispensable, it is best to have air-holes in the top of the hives, and, after placing the hives one foot apart on a platform one foot above the ground (3x4 scantling will do), to raise each hive one inch from the bottom board by small blocks.

A hole or pit near each end of the platform, 4 ft. deep by 2½ ft. in diameter, connecting with the outside air by a 3-in. pipe, reaching through the covering of dirt and boards; the end well guarded with wire gauze against mice and other intruders, will admit colder air when needed. A stovepipe 15 inches long in the middle of the row, to reach the covering from the top of the hives to the outside air, will give thorough ventilation from below upward, carrying off all dampness.

This arrangement, with a thermometer suspended in the center pipe and examined from time to time, will give perfect control of the temperature, which should be kept at 34° Fah.

The lower pipes may be tightly closed by small boards when the outside air is too warm or too severely cold. The upward current of air will then be supplied by the pits, and all dampness be avoided.

When weighed and marked, when covered and again when uncovered, colonies have come out well in the spring, vigorous and eager for work, with a loss of only 3 to 7 lbs. each. The cold and silence prevents injurious excitement that uncovered colonies manifest during the changeable weather of early spring, leaving the hives in the warm hours and getting too chilled to get back—a great loss of working force, after eating bountifully all winter to keep from freezing.

When the season is suitably advanced and the air is 60° ther. or more, the covering may all be removed. The bees will rouse up from their long winter's nap and take a wonderful frolic, and begin the rearing of young vigorously. If the season is backward, a supply of rye meal or middlings is useful.

From the Southern Agriculturist.

Bee-Keeping in the South.

H. L. LONG.

With all our sources of supply, think what millions of pounds of honey are wasted without benefitting any one. Then let us be up and doing something towards this boon to some good account for man's comfort and happiness, for its medicinal and health-giving properties were acknowledged by the ancients 2,000 years ago.

Is not bee-keeping too uncertain to be undertaken as a business? I answer, no more so than any other one of the numerous industries now being successfully prosecuted. It is true that all the mysteries of the little busy bee have not been unraveled, still the progress thitherwards is as marked and encouraging as farming, merchandise, or other callings, and any one who will commence it with the same determination that would be requisite for success in other things, will surely win. To go into it extensively it would be necessary to cultivate largely those plants abounding in honey-producing flowers, and to scatter the colonies in different localities, adjacent to lands producing a great number of flowers—large swamps for instance. I imagine the orange groves of Florida would be simply splendid. Will some one who is informed on this point make it known through your journal? It would be necessary to have some simple, easily constructed, improved hive, and use both boxes and large and small frames for storing surplus honey, and to ship to large cities, as nice honey commands a far more remunerative price there than in small towns or villages. I would hesitate to state the prices that are sometimes obtained there for nice honey, lest I should not be believed. I think it highly important for any one commencing the business, whether for profit or pleasure, to have only a few colonies at first, and by getting all the information to be obtained from works on bees and frequent inspection of hives, to verify the facts learned there, so as to be able to practice them. A small observatory hive having only one frame of the same size as those of large hives, with glass on both sides, will enable the beginner to learn very rapidly as it places everything under the eye of the apiarist, just as it exists in a regular colony so that many mysteries are explained. The busy months run from first of February to last of October, though it is chiefly confined to March, April and May.

Adaptation of Southern Georgia to bees, though there has been great success in the North, yet it can be carried to greater perfection here than there, if we will but acquaint ourselves with it here as they do there.

In this section, bees gather pollen and honey from the first of February to last of October, leaving but three months in which to be compelled to remain in winter quarters, and during these three months scarcely ten days ever pass without at least a few hours of the day in which they can take flight, which is a great desideratum to their health. Our bees remain all winter on their summer stands, the shelter that wards off the summer's sun and April showers is sufficient for winter's blasts, and we have only to make the entrance very small to exclude cold and mice and put on the honey boards, or just as well, a piece of osnaburgs laid on top of the frames of the lower story. From all accounts, we have no more moths here than in the North, besides they can be fully guarded against, as I will at some future time explain.

Now in higher latitudes, they must be put into close quarters during winter; their seasons are not more than half as long as ours, and almost all the honey producing trees that flourish there can be made to flourish here. Besides, it not unfrequently occurs, the evils incident to winter there often prove the ruin of large apiaries, while here the bee is perfectly healthy, for I have never had a colony destroyed by dysentery yet, although it frequently occurs in colder climates.

Translated from the German.

The Frog as a Bee Enemy.

The honey bee like every living being in existence has its enemies. As is known many birds, especially swallows, snatch bees on the wing. But here another enemy of the bee might be mentioned, who as such is not generally known by many: it is the frog, the brown as well as the yellow ones. It is generally known that it chooses with predilection its abode on white or red clover, and this it does not without any motive. Thither, especially to the mellifluous white clover, the bees come in order to leave it laden with their sweet burden. But many of these industrious working bees never see their honey place again, but they become a delicious prey of the frog. With greedy, wide-open eyes, like a tiger in miniature, it stares at and lies immovably in wait of its chosen victim, until it snatches it in a favorable moment by a sure leap, when it sinks its fore part of the body deeply into the flower cup, not minding the stings its captive might apply, for the frog is "cold-blooded." No less than eleven dead bees were found in the skinny stomach of a frog—a very handsome portion! To many an apiarist the gradual diminution of his bees in the hive the foregoing might appear clear; the frog is a dangerous foe of his pets. But hereby it is not intimated that the frog should be destroyed, because it destroys many other noxious insects. Only near the bee-hives it should not be tolerated, for there it might be apt to make itself comfortable and try its hunting skill exclusively on bees.

The Composition of Honey.

PROF. KEDZIE.

Honey is one of the oldest things under the sun. At one time it was probably the only form of sugar known, and to-day is one of our most delicious articles of food. Does it not seem strange, then, that in this scientific age so little is known of its real composition or the changes it undergoes? Honey is composed of grape and cane sugar, together with water, acid, and waxy matters. If honey be burned completely, a grayish colored ash remains, which amounts to about fifteen per cent. of the original honey. In this ash I succeeded in obtaining reactions for silica, lime and iron. There is also a small quantity of potash and phosphoric acid in honey. To estimate the quantity of these present, I took two portions of "cap" honey, free from pollen and wax, and burned them to a coal-like mass. In one I extracted the potash with muriatic acid, and in the other, phosphoric acid with nitric acid, and estimated them in the usual manner.

The following are the amounts obtained: Potash .06 per cent.; phosphoric acid .08 per cent. These substances would nataurally be present in honey, as they are found in soils, and circulate in the juices of plants. There are many things connected with honey about which, at the present time, but little is known. The following are a few:

1. Has honey a definite composition? Is there any difference between the relative amount of sugar in honey made from buckwheat, basswood, clover, golden rod, brown sugar, etc., or between the relative amounts of cane and grape sugar? Probably this question can be answered only by comparing the analysis of different kinds of honey.

2. Does the bee add anything to nectar in changing it into honey? On this point there is wide difference of opinion. But I know of no experiments having been tried to settle the matter. Perfectly pure honey, that has been dried completely, contains about one per cent. of nitrogen. Does the bee supply this nitrogenous matter? To decide this I gathered some nectar from flowers in the Agricultural College green-house (from the azalia, rhododendron, and fuchsia, but principally from the last), and carefully tested it for nitrogen. The result of my experiments is that nectar does contain traces of nitrogen. Therefore the fact that honey contains nitrogen does not prove that it was furnished by the bee. May not this question be decided by feeding bees upon pure white sugar, which contains no nitrogen, and afterward examine the honey to see if any nitrogenous matter has been added to it?

3. After honey has staid for a certain length of time, a part of the grape sugar crystallizes out, and granulation or candying

is the result. The cause of this change is not known. May not the conditions under which granulation occurs be obtained by a series of experiments, by keeping honey at different temperatures, etc.? Answers to these questions may not advance the market value of honey a particle, but we shall enjoy the satisfaction of knowing the truth of the whole matter.

From the Toronto Globe.

A Canadian Apiary.

The flourishing village of Beeton (once Tecumseh), which is situated in South Simcoe, on the line of the Hamilton & N. W. railroad, is not so named because it contains within its limits the bee farm which will probably yield the greatest amount of honey secured this year by any one man in the world. It might appropriately have been called Beeton because it was the home of—and in fact was created by—Mr. D. A. Jones, who is one ot the most skillful and successful apiarists alive; but, as a matter of fact, when postal exigencies compelled the abandonment of the old name of Tecumseh, Beeton was named after Beeton Castle in the Land o' Cakes.

Mr. Jones has 4 bee-yards, situated as it were at the east, west, north and south corners of a square or diamond, whose diameter is between 4 and 5 miles. Most of the honey is, no doubt collected within a short distance of each yard—probably within half a mile. Under pressure of necessity, however, the bees will fly a long distance for honey, 4 or 5 miles say. When flying so far it is as much as they can do to support themselves and store a surplus for winter; but as they do go these distances, it may be inferred that Mr. Jones' bees lay under contribution a territory 8 miles square, or perhaps a whole township. No doubt they do not gather all the honey nor a tenth part of it in this area, but at some periods in some years they will need to scour the whole of their domain, and even then will fail to find enough of food. The present year has been at Beeton, up to the present time, one of the best honey years in memory, and if the locality, which has been suffering a little from drouth lately, should be blessed with timely rains, the character of the year may be preserved through the fall. Should that happen Mr. Jones, who has already secured more than 50,000 lbs. of honey, will get as much as 70,000 lbs., that is, 35 tons of pure honey, every pound of it worth 15c. at wholesale. It is a striking commentary upon the progress of bee-keeping, that while 10 years ago honey brought 25 to 40c. a pound and its production was looked upon as a peddling, unremunerative kind of business; now, with much more expensive appliances, it can be produced at a splendid profit for 15c. or even less.

A modern bee-yard consists of about an acre of land, preferably sandy, and having fruit trees on it, inclosed in a tight board fence in order to keep out dogs and like intruders, who might get into trouble; a small cottage for the proprietor or his assistant; a house for wintering the bees, constructed on the principle of an ice-house, only with better ventilatory appliances; the same house should be built so that it can be used for a summer store-room and extracting-room; the bee-hives and the bees. The latter should be Italians, or for economy's sake in starting, common black bees with an Italian queen—the Italians being more industrious and prolific, and less apt to assert the sharpness of their nether ends. The hives used by Mr. Jones are a modification, or rather enlargement, of the Langstroth hive. The aim of modern bee-keeping is to save the bees from unproductive labor, and therefore combs are made for the bees.

Mr. Jones' 4 bee-yards contain respectively 250, 150, 150 and 70 of such hives, all populated with busy colonies of workers. The number of hives is subject to constant diminution or increase, from the decay of one colony necessitating its amalgamation with another, or the increase of a colony rendering its subdivision necessary. The aim of every first-class apiarist is to have very strong colonies. The more bees the less honey is consumed in keeping up the animal heat.

The country around Beeton is peculiarly calculated for bee-keeping. It has a very rich soil, with some swamps just passing into cultivation and rich in honey plants. Basswood abounds in every piece of bush, and white clover on every roadside. In this neighborhood the first food the bees gather is from the black alder, which yields a plentiful supply of pollen and some honey almost before the snow is gone. After that the numerous species of willows yield an abundance of honey. Then the maples come in, and after them the whole tribe of fruit trees, apples, plums, cherries, etc. Before the supply is gone from this source the thorns and that troublesome weed, the sheep-burr, are yielding honey. Then comes a lull of a week or 10 days, during which the bees are sometimes hard up and have to be fed. If they are neglected now they will remain weak all the year. With the advent of the white clover there comes a rush of honey. White clover lasts 6 weeks. Strawberries, raspberries, wild grapes, and lots of things yielding honey follow. Basswood yields immense quantities of honey for 12 to 18 days, and most of the forest trees give some honey at some period of the year. After basswood that despised weed, the Canada thistle, yields "lashins" of honey; then catnip, willow-herb, golden-rod, boneset, motherwort, and many fall flowers.

Mr. Jones is now experimenting with Bokhara clover, which seems to fill the bill exactly. It is a tall-growing, leguminous plant, 6 ft. or more high, having a general resemblance to lucerne, except the blossom is whiter. It has a most agreeable perfume and blooms from July till frost comes. The bees are swarming upon it the whole time. Bokhara clover is a biennial, but as it seeds itself is practically a perennial. As a forage crop for general farm purposes it might possess many good qualities. If left to flower it becomes too woody to be of much good, but when young and tender it would yield an enormous weight to the acre. A botanist coming accidentally upon Beeton would be puzzled to find this foreigner growing here and there as a common weed by the roadside, and he might also think some other honey plants strangely abundant.

Extracting honey from the comb commenced this year June 15th, and is expected to end about August 15th. At Mr. Jones' 4 yards there has been more than 3,000 lbs. extracted on several days of this year. At these 4 yards there will be gathered this year 70,000 or 75,000 lbs. of honey.

There might be gained to Canada, Mr. Jones asserts, a profit of $10,000 a year in every township from the keeping of bees. He would undertake to make more money than any farmer in the world out of the same capital, and it would appear that this is no unwarrantable statement. Of course, it will not do for everybody to rush into bee-keeping with the idea that he can make a fortune every year by it. Mr. Jones' success is the result of a lifetime of close and laborious investigation, of the most patient studying of the ways of the insects, and a readiness to adopt and utilize the experience of others, which very few men possess. An essential quality for a large apiarist is that he be an excellent judge of men. Without first-class assistants, he is simply nowhere. Mr. Jones' assistants are young Canadians who intend making bee-keeping their business, and whose thorough acquaintance with their duties is a credit to them and their chief, too. While it would be the most hopeless thing in the world for anybody without experience to go into bee-keeping on a large scale, there is every inducement for embarking in the business in a smaller way. Fifty colonies of bees could be made to yield 150 to 300 lbs. of honey each, value $1,125 to $2,250. Colonies to the value of $50 a year could be sold, and still the number on hand would be nearly doubled. All can be done at a very small expenditure.

In 2 or 3 years of patient study, aided by the personal superintendence of 1 or 2 colonies, the operator will be able to go into bee-keeping as a business, and he or she, for there is no business so especially adapted for women as bee-keeping, will possess a certain means of livelihood of which nothing can dispossess him. His income will fluctuate with the seasons, but no more so than the income of every farmer. If he is not above peddling round his honey, he can get a much higher price for it than if he sends it to a commission merchant, and moreover his customers will then be sure of getting it unadulterated, and will become regular customers of stated quantities.

If a man conducts his business so badly as to lose all his bees by dysentery in the winter, it is of no use his continuing a bee-keeper. One of Mr. Jones' winter houses is a model. It is equipped with the underground pipe for ventilating and carrying off carbonic acid gas which is now being applied to dairy ventilation. By means of this pipe, which opens out about 300 ft. away from the house, the air is delivered pure and at a uniform temperature of about 50° winter and summer. The hives are stored in this house, care having been first taken to see that the colonies are strong, and that they have enough of honey to last them till spring. The moisture generated by the bees passes off readily, and the consequence is the colonies come out strong in the spring.

Conventions.

Sanilac County, Michigan.

Sanilac County Bee-Keepers' Convention was held at Carsonville, June 20, 1879; quite a number of the most prominent bee-keepers of Sanilac put in an appearance. President George Smith, of Amadore, opened the convention with an able address on "The Honey Bee and Its Habits."

The question of wintering was discussed without arriving at any definite conclusion. James Mattison and others advocating more upward ventilation, while Mr. Wm. Sweet wintered best in double-walled hives, with upward ventilation entirely cut off by leaving honey board on and covering with six thicknesses of paper, then eight inches of sawdust on top of the paper.

How to build up our depleted apiaries was then discussed. Comb foundation and judicious feeding, during a scarcity of nectar, was the conclusion.

A report was given of the apiaries of the eastern part of Sanilac; 1,400 colonies were put up for winter in various ways, 150 responded to the roll-call in the spring, and the western part of the county suffered even more severely. JAMES ANDERSON, *Sec.*

Farmers, July 9, 1879.

Western Illinois and Eastern Iowa.

Proceedings of the 5th semi-annual meeting of the Western Illinois and Eastern Iowa Bee-Keepers' Society, held at Hamilton, Ill., May 6th and 7th, 1879:

Called to order at 10 a. m., May 6th, President Scudder in the chair. The attendance was large and composed of some of the most enthusiastic practical bee-keepers of the West. A committee was appointed to arrange subjects for discussion in proper form. The minutes of last meeting were approved as published in the AMERICAN BEE JOURNAL. Thirty new members were added to the roll as follows, 11 ladies and 19 gentlemen, making our present membership 125:

James Sangier, Hamilton, Ill.;
Mrs. C. M. Kingsly, Elvaston, Ill.;
Thomas Ruggles, Hamilton. Ill.;
J. Renand, Keokuk, Iowa;
J. W. Barlow, Keokuk, Iowa;
W. J. Ash, Elderville, Ill.;
Wm. S. Bailey, Blandinsville, Ill.;
D. W. McDaniel, Hamilton, Ill.;
Dr. T. J. Dodge, Hamilton, Ill.;
Mrs. E. C. Hammond, Warsaw, Ill.;
S. N. Black, Clayton, Ill.:
Mrs. Z. Hollingsworth, Mount Rose ,Iowa;
Mrs. A. B. Ruggles, Hamilton, Ill.;
C. N. Dennis, Hamilton, Ill.;
Miss Kate Ruggles, Hamilton, Ill.;
Mrs. C. P. Dadant, Hamilton, Ill.;
W. H. Githens, Hamilton, Ill.;
E. J. Baxter, Nauvoo, Ill.;
Mrs. E. J. Baxter, Nauvoo, Ill.;
Mrs. C. N. Dennis, Hamilton, Ill.;
Mrs. Dr. Githens, Hamilton, Ill.;
D. C. Milliken, Elvaston, Ill.;
Mrs. D. C. Milliken, Elvaston, Ill.;
Mrs. Mary M. Clute, Iowa City, Iowa;
M. T. Chenowith, Warsaw, Ill.;
J. H. Boyse, Hamilton, Ill.;
C. R. McClaughry, Hamilton, Ill.;
J. S. Johnson, Elderville, Ill.;
Thomas S. Wallace, Clayton, Ill.;
Dr. A. X. Illinski, East St. Louis, Ill.

Discussions.

The discussions during the sessions were able and lengthy, but on account of taking up too much valuable space in the JOURNAL must be abridged very much.

Wintering—Methods and Reasons of Failures.

D. D. Palmer. Wintering is not a hobby with me, I have so many it is not of so much interest if I lose a few. I advise putting bees into winter quarters early. I put in a part of mine early—cellar well ventilated, double doors, open at will. I think a pipe should be run out 100 or 200 ft. from cave or cellar; let air in at further end and by the time it gets to the bees is tempered to their condition. The balance of my bees were put in Jan 10, 1879. Lost 2 of the 130 first put in and 75 out of the last 150 in, which showed signs of dysentery.

C. P. Dadant. We use 60 or 70 American hives, 300 or 400 Quinby hives and some Langstroth hives. Lost 10 per cent. in the Langstroth hives, 1 or 2 colonies in the American, very few in the Quinby. The trouble with the Langstroth hive is, it is too shallow, the bees starve because the honey gives out above them, and bees can't reach it sidewise on account of the cold. Bees have died more from neglect than any other way. I think the Langstroth hive is especially adapted to cellar wintering.

Wm. M. Kellogg. We winter our bees in a sand cave, double doors, 10 in. of sawdust overhead, cave well ventilated by 6 tubes through the sawdust and 1 out at the sides at the east. We winter with almost no loss, if bees are put in early and in good condition.

O. Clute. As to Mr. Palmer's suggestion of a long pipe, why can't we use ice? I think most bee-keepers could use ice to good effect.

L. H. Scudder. My bees got very hot, the walls were covered with bees. Kept closed till dark, then opened the doors. It was so hot the air looked like steam. Left the doors open till morning; it was quite cold; a large amount of bees were clustered in one corner. Had to open the doors every night. I want under ventilation.

Wm. M. Kellogg. We used ice in our sand cave, and it worked well; don't know how it would inside on the soil. I want a great deal of under ventilation. Our bees seemed to suffer more from impure air than from warm air.

O. Clute. The objection to dampness from the use of ice can be overcome by placing ice in each upper corner and catch the drip in pipes. Am confident if we go to work in the right way we can overcome all difficulties and keep down the temperature by the use of ice.

Chas. Dadant. Ice will draw the moisture to itself instead of giving it off.

Mr. Dadant spoke of deep frames for wintering. How much honey do you recommend over the bees for out-door wintering?

C. P. Dadant. I can't say as to pounds; ought to be 6 inches of honey in the Quinby frame, 5 or 6 in the American; 2 or 3 inches is too little. In the cellar it makes no difference, so there is plenty of honey. If we didn't care for the cost of help in handling, we would prefer to use chaff hives.

D. D. Palmer. I was at James Heddon's apiary; he is one of our foremost bee-keepers; has near all the hobbies, hives of all shapes, and thinks a winter repository much the cheapest.

O. Clute. Chaff tends to keep the hives warm and prevents spring dwindling, also keeps the heat out in the summer.

AFTERNOON SESSION.

The following address of welcome was delivered by Mr. C. N. Dennis, Mayor of Hamilton:

"In the name and on behalf of my fellow citizens, I have the pleasure of offering you a cordial welcome to Hamilton. We thank you for the honor conferred in having selected our city as the place of holding this your 5th semi-annual meeting, and I trust and hope you may receive at our hands the courtesy and hospitality you deserve. Gentleman, your labors in the science of bee-culture tend to promote the growth and to develop the resources of the States, which you in part represent, as well as to conduce to the well-being of mankind. It has been said that vegetable production constitutes the beauties of the earth, but it must be admitted that your productions add sweetness to the beauty. I also hope that the fraternal relations may be such that you will return again and again to do missionary work among us, and that we may be allowed to sit humbly at your feet and gather the sweetness of instruction as it falls from your lips in your discussions. 'Full many a flower,' etc., and the person male or female, who assists to gather and utilize the same is a public benefactor and I should fail to do my duty did I not memtion our bee-kings, Dadant & Son, as pre-eminently filling that position. We desire to call your attention to the 'Father of Waters' as it flows at our feet with an undeveloped water power of almost unlimited extent; to our bluffs, rough but picturesque, and healthy. offering perfect havens for the apiary and home, all backed by a promise of unexcelled fertility, a community intelligent and law-abiding. The whole forming a location inviting your attention as a home, but whether as a visitor or a settler, we bid you welcome, thrice welcome."

Spring Dwindling.

Mr. Whitlock. Have handled bees for the last 20 or 30 years. In March some colonies are strong, many bees fly out and never return. I think the queen becomes affected with the disease; brood is deficient. Bees passing out and no bees being raised, is one cause of spring dwindling. There are not bees enough to hatch and take care of what eggs the queen does lay. Remedy: Take out a part of combs, put in division board and give no more room than needed; cover well to keep air warm. Combs to be spread later.

D. D. Palmer. We did not hear so much of this till the Italians were brought in; don't hear of the blacks having it so much. Italians fly in colder weather than blacks, and work when the blacks are still. Keep bees in the cellar as late as possible.

Mr. Whitlock. I found this year that my blacks were the first to "fly out."

Mrs. Z. Hollingsworth. I keep my bees in by shading the front of the hives; it is a good preventive.

L. H. Scudder. I would suggest placing the entrances to the north and shading well would be a great help. The first spring dwindling I ever had was before I ever saw an Italian. I think the queen gets the disease as well as the bees and stops her laying.

What Will Pay to Plant or Sow?

D. Rider. Have not paid much attention to this, but think to fill up vacancies in early spring it would be well to plant trees and shrubs, currant, raspberry, gooseberry, etc. Think all who keep bees should have a good supply of these, as also of cherry, plum, pear, etc. The fruit is very nice with honey. White clover comes in next; mignonette is very good. Previous to flowers I would feed liberally to stimulate brood rearing.

To Keep Bees from Swarming.

E. D. Godfrey. I go through my colonies once a week if I can, extract some and keep them at work. Extract from outside combs and put them in the center. I have no white clover; get the larger part of my surplus in the fall. Expect to feed my bees in June. We have very little fruit.

C. P. Dadant. Have young queens; if we have old ones the bees want to supersede them and raise queen cells. We use large hives; allow no drone comb in the brood chamber; drones make a great deal of noise around the bees and make them restless, which is one cause of swarming.

D. D. Palmer. Deprive the colonies of all drone comb; put the boxes on early; give plenty of room; don't take off the sections all at once, but changing empty ones for full ones. To get bees started to work in boxes give them a section already started by some other colony with the bees in it. Shade thoroughly.

Where and How Dispose of Our Honey?

C. P. Dadant. I think the best place is as near home as possible. Hunt around home; people don't know our honey is cheap; are surprised at its cheapness when told. We are in favor of extracted honey; we get about one-fourth comb honey, the rest extracted. We sell as much as possible in bulk.

Thos. G. Newman. The question is a very important one. Mr. Dadant is correct; sell near home as much as possible. We are letting our bees gather a great deal of honey, but we have not created honey consumers; not a tithe is used that ought to be. The Good Book says, "Eat of the honey as it is good." Our neighbors don't know that we sell our honey so cheap; we ship it away off. Give them tastes of it; get them to using it. Have both comb and extracted; people have a fancy for comb honey, educate them that extracted is the best, then you have done a great deal as to the *how*. I don't want to eat wax, I want extracted honey for my stomach, and candied honey at that. I think the Dadants' way of putting up honey for the market in tin cans, is the very best way. That is one answer to "How to sell our honey?" We must foster all ways of bringing honey into commercial use as much as possible.

O. Clute. I think we should produce both comband extracted, and cater to which is most demanded. Let us make them produce pure honey whatever we do.

D. D. Palmer. Canada is full of glucose; 300 to 400 grocers sell it; not more than 2 or 3 have pure honey.

Do Bees Injure Blossoms?

D. D. Palmer. What do bees do about these blossoms? They go from one flower to another, leaving each flower just as they found it, and never injure it.

Recess.

A recess was taken for the purpose of examining and explaining the articles on exhibition, among which were the following: Picture of Rev. L. L. Langstroth; Quinby smoker from L. C. Root; Bingham's smoker, 3 sizes; C. W. Dunn's Quincy smoker; Dadant's specimen of honey pails, 2 kinds of honey wine, honey vinegar, bottle of queens in alcohol, ancient bee books, observation hives showing queens, samples of honey of 1873, improved Quinby hive, double-walled paper hive; Bingham, Novice and Muth honey knifes; Novice, Muth and Everett (2) honey extractors; Barnes' foot-power saws, 2 styles; Shuck's Universal bee-hive, described by T. G. Newman; Lewis & Parks, Watertown, Wis., section box; swarm catcher, made of a cloth sack, wire hoop and a handle (Dadant's).

D. D. Palmer gave a short article of instruction in regard to raising the raspberry.

Adjourned to 7:30 p. m., at which hour the meeting was called to order and listened to an able lecture on "Honey and Money" by Rev. O. Clute, of Iowa City, Iowa. The large hall was crowded and many were obliged to stand up. The Hamilton Brass Band played a number of excellent pieces before and after the lecture. After the lecture was over the floor was cleared and those who wished, to the number of some 50 or 60, passed two or three hours in a pleasant, social dance.

WEDNESDAY MORNING.

The Committee on Adulteration handed in their report, which is as follows:

Report on Adulteration.

About 10 years ago in August, I had sold to a honey dealer in Chicago several barrels of extracted honey. The price then was high—17c. per lb. Soon after I was informed that the same firm retailed clover honey in small bottles and in tumblers, for about the price or even less than it had paid me at wholesale. Of course, I became convinced that my pure honey had been used to give the taste of honey to some cheap article, and that the mixture was sold as pure clover honey. But it did not occur to my mind that so poor an article as glucose could be used, and I imagined that a strong solution of white sugar had been used, the comparative low price of sugar giving a fair margin to the adulterators.

The readers of the AMERICAN BEE JOURNAL can remember that I then wrote an article on adulteration, showing that unprincipled dealers were able to undersell the bee-keepers. My figures were based on a mixture of honey and sugar syrup, and on this the profit was handsome, but no doubt those dishonest dealers sneered at me, for their profit by using glucose was at least four times greater. No wonder that some of those dealers, poor a few years before and nearly unable to pay for the honey bought, became suddenly rich while we bee-keepers had to work hard to produce and sell pure honey.

Persuaded, as I then was, that sugar was used to adulterate honey, I thought that this base competition would cease as soon as the increased production of honey would compel us to sell our crop cheaper, and I anticipated that the day was not far distant when the sale of this injurious article would be no longer profitable ; the main damage to the bee-keeping community being, in my mind, the prolongation among the consumers of the false idea that candied or granulated honey was a spurious article, while liquid honey was pure. The adulterators, being unable to manufacture a mixture that would candy or granulate, took the greatest care to warn the retail dealers, and these in turn to warn their customers, against candied honey. This prejudice is alive yet in the minds of most of the consumers, and is the most tedious cause of the difficulties we meet in the sales of our pure extracted honey.

This rapid enriching of the adulterators was too apparent not to tempt some of the dealers, who make a living by adulterating everything in which adulterations can be made profitable. Many of these dealers, eager to be rich, took up the nefarious business, and soon the whole continent of North America was found too narrow for their operations ; they reached their dishonest hands across the sea to sell their fraudulent products in the markets of the Old World. But most of the countries of Europe have strict laws against the sale of adulterated articles. Not long since a grocer of Glasgow, Scotland, was fined for having sold spurious honey from America, adulterated with 57 per cent. of glucose. I wrote immediately to Glasgow, and was answered that two American dealers, Thurber & Co., of New York, and Bradshaw & Wait, of Chicago, had sold adulterated honey.

A few months after, while in St. Louis, I bought a bottle of extracted honey labeled "John Long." This name means Thurber & Co. This honey, which I bought in St. Louis, was adulterated with glucose, like that which was confiscated in Glasgow. While in St. Louis I found liquid adulterated honey in nearly every grocery. I there became convinced that our business was doomed, unless some steps were taken to stop this dishonest competition.

Most of the members of the convention know what followed. At our meeting last year, at Burlington, I proposed to have a committee appointed to frame a petition to Congress against the adulteration of sweets. My proposal was unanimously accepted, and I was appointed the chairman. A petition was prepared and printed, and several thousand copies of it were distributed. Then having been informed that the Committee of Ways and Means in the House of Representatives was making inquiries as to frauds committed on sugars by some refiners of New York, to cheat the custom house and the consumers, I corresponded with several honest sugar refiners who had denounced the fraud, and we aimed to help each other in obtaining from Congress a law against adulteration of sweets in every form. The petition, filled with names from every State, was put in the hands of energetic representatives of several States, but a vote of Congress referred it to the Committee of Ways and Means, and it is among its other papers waiting for a report, which perhaps may never come.

Another attempt was made by presenting a bill against adulteration of articles of food and medicine, but Congress was too much occupied with partisan discussions to look at the bill, which was also referred to the same committee and buried.

Such was the result. No, I am mistaken for something of real importance has been obtained. The legislatures of Michigan, Minnesota, Kentucky and New Jersey have passed laws against the adulteration of honey. Of course these disseminated efforts will greatly benefit our business, but they are insufficient to stop altogether the adulteration, and we propose to you to help us in persisting in our attempt to obtain a general law against adulteration. A law from Congress alone can entirely stop adulterations, for a dealer in New York, after selling adulterated honey in the West, will almost never be prosecuted ; while an honest retailer here may be fined for having sold, without knowledge, a spurious article.

What we want is a law similar to that of England or France, with the appointment of officers to enforce it and presecute the fraud everywhere. By the encouragement that we have received from every part of the country and by the number of signatures that were obtained in every place to which the petition to Congress was presented we are confident that such a law is desired by all, and that it will be enacted sooner or later. But to reach such a result we need renewed efforts to keep this idea in the minds of the people.

A great number of papers supported us by publishing the petition in their columns, but we regret to say that we have found one opponent to our move in the editor of a bee-periodical which we had considered as a friend to our cause. We will not here renew the criticism that we have written on his course, for it seems that he now acknowledges that he was following a wrong track. We, therefore, hope to see him seconding us in our new efforts to obtain the law desired. The editor of a new-born bee-paper, called the *Bee-Keepers' Exchange*, published especially to help the sale of bee-fixtures (we have already too many of such papers) seems to care very little for the welfare of bee-culture, for instead of censuring Thurber & Co. for having killed the exportation of extracted American honey to Europe by sending adultered honey, he extols them for their endeavor to export comb honey to England. The motive of such flattery is evident ; the editor hopes to have his share of the money paid by the firm for advertising. Never will such a course be approved by sensible bee-keepers, who will turn the cold shoulder to this editor.

To sum up our report, we desire that a new committee be appointed to follow the move already in progress, to extend it to every kind of adulteration in food and medicine, till the object in view be reached. All of which is respectfully submitted.

CHARLES DADANT, *Chairman*.
Hamilton, Ill., May 7, 1879.

The report was received and the committee continued. Chas. Dadant & Son refused to receive any pay for their services.

Drawing of Prizes.

Quite a number of valuable prizes were given away to the members present, consisting of full colony of bees with imported queen, tested queens, comb foundation, cash, plants, eggs, books, etc.

Best Method of Raising Italian Queens.

C. P. Dadant. Our plan is, in the spring divide a strong colony of bees, take the queen away with the smaller quantity of old bees, put in a new hive on the old stand with a part of the combs. Make 2-comb nuclei. In 9 or 10 days introduce queen cells to these nuclei. Raise queen cells in strong colonies; we think queens raised in small colonies of less value. The first queens hatched are undoubtedly the best. Put drone comb in strong pure colonies early and stimulate to cause the queen to lay.

Chas. Whitlock. I buy black bees in the spring if I can; take the bees all out, kill the queen, take some combs out of pure Italian colonies and put in with the black bees; they will go to work and raise queen cells. In 10 days look the combs over; will find queen cells. I make my nuclei 2 days before I look for cells. Select good long cells; rough ones the best. The number of cells varies according to the season.

D. D. Palmer. It is easy to get an almost unlimited number of queen cells; cut off 1 or 2 inches from the bottom of the comb, and you will get plenty of cells.

E. D. Godfrey. I use new comb, strong colonies, take the queen away, cut combs to leave in strips, get a large amount of cells. Feed all the honey they will eat; cells will be large and good.

L. H. Scudder. Have any discovered any difference in queens raised from eggs or larvæ?

N. Grigsby. I have queens hatched in 10 days, also 16 days; the oldest queens are always the best with me.

E. D. Godfrey. You must feed colonies when raising queen cells, unless honey is coming in in great plenty, or you will not get good cells.

Chas. Whitlock. I have a similar experience to Mr. Grigsby.

AFTERNOON SESSION.

Why Do Bees Swarm Out in Spring?

C. P. Dadant. I don't think any one ever saw full strong colonies leave, always the light ones; sometimes caused by lack of pollen. We have kept them at home by giving combs of pollen. Another cause is dampness in the hive; also bad honey. There are numerous causes. It comes oftener after a hard winter. I think they always have a queen at such a time. When they leave in the fall I think it is caused by weakness and probably too much honey, which is colder than partly empty combs.

D. D. Palmer. There is very little of this among the practical bee-keepers; it is among the beginners mostly.

Chas. Whitlock. I agree with Mr. Dadant as to cause and size of swarms. Robbers get to work and the swarm goes with them.

The ladies of Hamilton and vicinity exerted themselves so energetically in the provision line, that a large basket picnic dinner was served both days in the Masonic Hall kitchen, so that members present need not go home for dinner. Over 60 the first day and more than 90 the second day sat down to the bountifully filled tables and did ample justice to the feast of good things set before them. Resolutions of thanks were passed to the ladies for their labors and dinners, the mayor and council for the use of their hall, the citizens of Hamilton and vicinity for providing homes for visitors, the band for their excellent music, the local bee-keepers who labored to make the meeting so complete a success, the local and other newspapers for their kind notices of the call, and the orators who came from a distance to talk to us.

The Society presented the Secretary with a bound volume of Cook's "Manual of the Apiary." Messrs. Paul Lange and George Bischoff were appointed a Committee of Arrangements for the next meeting.

Adjourned to meet at Burlington, Iowa. Time of meeting being left to the Executive Committee. L. H. SCUDDER, *Pres.*
WILL M. KELLOGG, *Sec.*

Lancaster County, Pa.

The quarterly meeting of the Lancaster County Bee-Keepers' Society was held Monday, Aug. 11th, 1879. The Secretary being absent, J. M. Johnston was chosen Secretary *pro tem.*

Importance of the Honey Crop.

On taking the chair, President Reist made a brief statement, showing the importance of the honey interest in the United States. He said that careful statisticians placed the annual value of the honey crop at $8,800,000 and the annual value of the wax at $6,000,000, making a total of $14,800,000. The money value of the honey exported amounts annually to $1,200,000 and the export of wax amounts to 701,000 lbs. At the late English Honey Show the United States were credited with showing the best product. It was estimated that there were 35,000 bee-keepers in the United States and that the product was 35,000,000 lbs. of honey—an average of 1,000 lbs. each.

Report of the Local Honey Crop.

President Reist added that his own bees had increased about 75 per cent. during the past season—all by natural swarms. One of his colonies that had no queen had been robbed; another was attacked, but was saved from its enemies. The honey harvest will be small, owing to the drouth which destroyed the bee pasture. The bees are in middling good condition for wintering.

J. F. Hershey, Mount Joy, reported that his bees had done very well during the spring; he had taken out 650 lbs. of honey. Since June they had done but little, the drouth having destroyed the pasture. He does not expect them to do much more this season. The colonies are in good condition for wintering.

D. H. Lintner, Millersville, said his bees did very well in April, May and June; he started in the spring with 14 colonies and bought 12 more; he placed them in small 8-frame boxes. In June he commenced transferring and dividing them; those transferred were placed in 12-frame hives, except the swarms which he placed in small hives, increasing the number to 43; they are now all in good condition, filled with honey and bees. He took 250 lbs. of honey from them; his bees paid him 250 per cent. on their cost; he sold his honey at 20 to 25c. per lb. Since July 1st the bees have not been doing much, there being no clover or other bee pasture from which they can increase their store.

I. G. Martin, Earl, said he had 20 colonies with which he started in the spring. He tried to prevent swarming, but he got 4 natural swarms, and since then some artificial ones. He has now 30 colonies; he took 540 lbs. of honey; since harvest the season has been poor, and the bees gather no more than they want themselves; the honey crop for the season is almost over.

Eli Hershey, Paradise, has 35 per cent. increase; got 9 swarms out of his 25 colonies; 25 lbs. of honey per colony is all he could report.

L. S. Fleckenstein, Manor, started in the spring with 12 colonies; can depend on only ½ of these for honey; tried to prevent natural swarming; had one natural and no artificial swarms. He wants to get more honey and less bees; the honey can be sold at any time, but the bees can't. He took 18 or 20 lbs. of honey from each colony; the season is not over yet. He lives near the river, and his bees fly over to the York county buckwheat patches and return laden with honey; some of them are lost in crossing the stream.

John Eitemiller, Strasburg township, started in the spring with 18 colonies and now has 27; got 300 lbs. of comb honey; he took no extracted. His bees are all in good wintering condition.

Best Method of Preventing Swarming.

J. F. Hershey read the following essay:

"As this question was referred to P. S. Reist and he referred it to me, I will say a few words on the subject of preventing bees from swarming. I find that there are four points that must be made use of, and those are shade, air, putting empty combs between brood, and getting the bees to work in honey boxes. To prevent swarming, commence as soon as the nights are getting warm to keep the hives well shaded; but have them so arranged that the air can pass over and around the hive. If a hive is ever so well shaded and stands in a warm place where the air cannot pass over and around it, shade will not help to prevent swarming. Shade and air must both be made use of at the same time. If shade is made with a roof, keep it 1 or 2 feet above the hives; don't merely shade them by having the roof right on top of the hives as then the rays of the sun will come too close to the hives.

"When the center combs are well filled with capped brood and the nights are warm, take an outside comb and if the comb is full of honey uncap it; then put it between two combs that are filled with brood. In this way, every 8 days put a comb between brood. If 3 combs are put between brood it is enough, and no more than 1 comb between brood at a time; if more is at one time the brood nest is spread too fast for the bees.

"To get bees to work in the honey boxes, give each colony 2, 3 or 4 sections filled with comb and another section that is empty. As soon as the bees gather honey, they will fill the combs in the section, and at the same time will commence to build comb in the adjoining empty section. As soon as the sections are full take them off and put empty ones in their place. If the sections are left on till they are all full the bees will not have enough room to build combs, and will commence to build queen cells, and the brood chamber being filled with honey, the queen will have no room to lay."

I. G. Martin agreed with the essayist in all particulars.

D. H. Lintner agreed with the essayist; when he did not want his bees to swarm he destroyed the queen cells and changed the combs around a good deal in the hives.

Mr. Fleckenstein's plan was to take out the full combs and insert empty ones in the hives.

J. F. Hershey said that since following the plan marked out in his essay he had not in 8 years more than 5 natural swarms.

Mr. Martin's experience was different; he had had natural swarms when the hive was not more than half full of bees and the combs not more than half full of honey.

President Reist asked what was to be done when the frames could not be removed from the hives, and Mr. Hershey answered then nothing could be done except to give the bees as much shade as possible and otherwise make them comfortable.

Should Glucose Be Fed to Bees ?

I. G. Martin, to whom the question had been referred, said he did not know anything about it; had never used it, but his friend Thomas Thurlow had done so. The bees fed on it freely and seemed to thrive; but he believes Mr. Thurlow had discontined its use. It is generally thought to do no good.

J. F. Hershey was glad to hear that no one present had used glucose; it was generally condemned by those who had tried it, and also by the papers in the bee-keeping interest.

A Colony of Bees.

J. F. Hershey exhibited a small colony of bees at work. They were inclosed in a glass case a foot or more in length and height and about 3 inches in width. In the middle of the case was placed a piece of comb foundation, secured to its place by fine wires stretched from one side of the case to the other. On the foundation the bees had built brood cells, the queen had laid eggs in them, and a great many of the cells were capped. By an arrangement at the bottom of the case feed could be introduced.

A Vase of Honey.

D. H. Lintner showed a glass vase nearly a foot in height and 6 or 8 inches in diameter, the inside of which the bees had completely filled with honey. The vase presented a novel and very pretty appearance. Mr. Lintner said that he placed a small piece of comb foundation on the inner surface at the top of the vase. He placed the vase on a wooden bottom, with an opening in it for the bees to enter or leave at their pleasure ; he introduced the bees, covered the vase with a wooden box, and let the bees do the rest of the work. They commenced building comb on the foundation he had furnished, commencing at the top and building a comb of the usual thickness from the top to the bottom, conforming the two ends of it with mathematical precision to the shape of the vase, barely leaving room for themselves to pass from one side of the comb to the other. The center comb being finished and filled with honey, the industrious little architects went to work and built additional combs on each side of the center one, the inner surface of these being parallel with the surface of the center one, and the outer surfaces being nicely conformed to the shape of the vase. These too were filled with honey and capped. The vase was quite a curiosity and much admired.

Honey for Shipment.

I. G. Martin exhibited a jar of pure extracted honey, and also a shipping crate containing 12 2-lb. boxes of comb honey which was very fine. Mr. Martin explained his plan of putting the bees to work. Each of his hives contain 21 2-lb. frames, in each of which he placed a small piece of comb foundation. As fast as the frames are filled with honey, he removes them, replacing with empty ones.

J. F. Hershey also exhibited a somewhat similar shipping crate, containing 25 1-lb. boxes. He said he could sell 1-lb. boxes more readily than larger ones. His boxes are 5x3¾ inches, outside measure. Unless he has natural comb, he places a little comb foundation in each box before he sets the bees to work.

How Bees Are Shipped.

Mr. Hershey also showed 2 dozen cages, each containing an Italian queen and 6 or 8 workers. The cages are simply wooden blocks, with holes bored in them 1¼ inches in diameter, the top being covered with a wire screen. In this way they are easily shipped by express.

Are Bees Injurious to Crops ?

The following essay was read by D. H. Lintner :

"Some people will contend that bees are injurious to crops. Now, instead of bees being injurious to crops, I shall prove to you that they are an advantage. First, the stamen and pistils of flowers answer the different organs of the sexes—that is, male and female. The stamen is the male, which furnishes the pollen ; the pistil is the female, which must be impregnated by this dust or pollen from the stamen, or no fruit will be produced. Now, as we all know that the breeding in and in of animals is detrimental, so it is in the vegetable kingdom. The pollen from one flower always falling on the pistil of its own flower would deteriorate. Thus it becomes necessary that the pollen produced by the stamen of one flower shall fertilize the pistil of another to prevent barrenness. This is fully accomplished by the bees traveling from flower to flower and carrying the pollen sticking to their legs and wings, to the next flower, and impregnating the pistil of it. If all the bees were to be destroyed, I for one, if a farmer, would prefer to go into some other business. This prejudice against bees seems to me to have no foundation, and I hope that the day is dawning when it will be done away with."

Mr. Fleckenstein indorsed the essay, and in confirmation of the opinion that bees will not cut whole grapes, he stated that in some way a number of bunches of grapes on his vines had become broken, and hundreds of bees were soon swarming around them. He removed all the broken grapes, leaving the sound ones on the vines. In 15 minutes every bee had left.

On motion, the society adjourned to meet on the second Monday of November.

Texas Bee-Keepers' Association.

The Texas Bee-Keepers' Association held their first annual convention in Greenville, Hunt Co., Texas, July 12, 1879.

The Convention was called to order by the President. The President's address was short but interesting. He was well pleased with the progress of the Association, and the increased interest manifested in bee-culture since the organization of the society. He impressed the Association with courage to carry on the good work begun. Twelve months ago the first convention was called together, through the efforts of three or four working bee-men in Hunt county and the President himself. The meeting was a success beyond their utmost expectations, and resulted in the organization of the Texas Bee-Keepers' Association at this place. Since that time it has increased in interest, and many live and active members have been added to its ranks. He called attention to our representation in the National Convention, to be held in Chicago next October, on which he spoke with much interest. He viewed the present year as a failure in the honey yield, caused by the extreme drouth, which so depopulated the colonies that we could not expect more than to save our bees through the winter ; and even this should not discourage us, as every year was not like this, nor was any pursuit a success every year. Agriculture and horticulture, like apiculture, have their seasons of short crops, as well as their seasons of abundance.

After the President closed, the officers for the ensuing year were elected as follows :

W. H. Andrews, President, McKinney, Collins Co.; F. F. Collins, Vice President, Dallas, Dallas Co.; John Mason, Treasurer, Greenville, Hunt Co.; Wm. R. Howard, Secretary, White Rock, Hunt Co.

A resolution was offered by W. R. Graham for the appointment of a delegate to represent us in the National Bee-Keepers' Convention, to be held in Chicago, Ill., Oct. 21, 1879. After some discussion W. H. Andrews and F. F. Collins were chosen as delegates to the National Convention.

The subject of awarding prizes for improvements in implements, hives, honey knives, smokers, honey in the best marketable shape, etc., was suggested by F. F. Collins, which after much discussion was laid over as unfinished business.

The following subjects were chosen for discussion at the next meeting of the Association, and members appointed to write discourses upon the same: "Foul Brood," F. F. Collins; "Test of Purity and Breeding Italian Queens," W. H. Andrews; History and Anatomy of the Queen Bee, and Native Honey Plants in Northern Texas," Wm. R. Howard; "Bee-Keeping as a pursuit," W. R. Graham; "Does Bee-Culture Pay?" John Mason; "Can Bee-Keeping Be Overdone?" L. J. Green; "Can We Overstock Our Apiaries?" J. H. Cooke.

Foul brood was discussed by Mr. Collins, of Dallas, the only member present having the disease in his yard.

The Convention adjourned to meet in Dallas, Dallas Co., in October, during the Fair at that place. Time to be set by the Executive Committee.

W. H. Andrews, *Pres.*
Wm. R. Howard, *Sec.*

Dainty Bees.

In the *Popular Science Monthly* a correspondent, Thomas D. Lilly, of Virginia. gives an account of his observation the past summer of the visits of bees and other insects to the flowers of petunias and morning glories. His account of the operations of the insects is interesting. He says: "During the summer I spent much of my time in a porch surrounded by petunias and morning glories, of all shades of color from white to bright purple and dark violet. I first observed that the colored petunias were torn to pieces every day before noon, while the white or pale ones escaped almost uninjured. I soon discovered that the bees and butterflies were the mischief-makers, and that the damage was done with their sharp claws in struggling to get to the bottom of the flower-cup. I kept a close watch, and my first impressions were fully confirmed. In every variety of situation and circumstance the white petunias have been neglected for the colored, in exact proportion to the intensity and vividness of color; and the same I found to be true in a less degree as regards the deep and pale morning glories. I have called the attention of others to the facts, and proved the preference of the insects is by color alone. If there was any difference whatever in the sweetness or fragrance, it was in favor of the rejected white flowers.

Our Letter Box.

Coopersburg, Pa., July 30, 1879.

At this date our best honey crop is over—having experienced one of the best honey seasons we have had for years. We have to depend mainly on white clover, which was very abundant in our locality this season. Preston J. Kline.

Hopedale, Mass., Aug. 4, 1879.

Where goldenrod, boneset, milkweed, elder, sumac and sweet pepper bushes grow only by the road or brookside, near fences and in the edge of the woods—nowhere in large patches—are they to be depended on as of much value for the production of honey? Would the Rocky Mountain bee-plant probably flourish and yield honey if cultivated in Southern Massachusetts, and where can the seed be obtained? Can any one give me an approximate idea of how much land should be sown with honey plants, such as borage, mignonette and sweet clover, to furnish pasturage for 3 or 4 colonies of bees? M. A. S.

[When the plants you speak of grow plentifully by the roadside, etc., in small patches, they should furnish sufficient pasturage for 3 or 4 and even more colonies of bees. We should suppose the Rocky Mountain bee-plant could be cultivated in Southern Massachusetts very advantageously, as its cultivation is quite successful in Minnesota. It should be planted in the fall, and the seed can be obtained at this office, or at most of the general seed stores. With the fence corners and out-of-the-way places, when protected from grazing animals, properly seeded with borage, mignonette or sweet clover, you could easily provide an inexpensive pasturage for a score or more of colonies. After our experience the past and present seasons, we are partial to the sweet clover, and would advise scattering the seeds plentifully.—Ed.]

Oakford, Pa., Aug. 1, 1879.

I have had a good deal of difficulty in reconciling the different reports I have read in the American Bee Journal as to the success of comb foundation, but this season the problem has been solved to my entire satisfaction. I have 2 lots of the article. One of them came to me in a lot of bee material of various kinds, that I purchased of the executor of a deceased bee-keeper in a neighboring county. The other was sent me by Messrs. Newman & Son, of Chicago, and cost, including charges, 73c. per lb. The first is a perfect failure; I would not give 5c. per lb. for it as foundation, and can see no use to put it to, except to melt it up and use it to attach comb in frames and boxes. The Newman foundation is a perfect success. The bees go to work at it immediately, and the queen lays in the cells before they are half finished. In inserting the foundation I first run from 1 to 3 pieces of fine annealed wire through the center of the top and bottom pieces of the frame, giving the frame a slight draw on the wires, and this keeps all straight and stiff. The conclusion I have come to is, that foundation is valuable just according to the purity of the wax of which it is made. C. W. TAYLOR.

Kearney, Mo., Aug. 6, 1879.

In the August number of the AMERICAN BEE JOURNAL under head of "Prospects for the Future," you put the honey crop of Missouri at "about 20 per cent. above the average," which I think is a wild statement, or rather the information is wild; that is, if in other portions of the State the yield is not far, very far greater than in this portion of Clay county. I have some 45 colonies, and have all told taken about 100 lbs. to date. Two neighbors who have nearly as many as I have, have taken only about 50 lbs. each. Last year I took nearly 1,500 lbs., and those neighbors each about 500 lbs. Our bees are carrying the honey from the partly filled boxes, below; have been all the season disposed to rob, and if the fall crop is not better than the spring and summer to date, many colonies will starve before winter. So far as I am informed there has not been more than 1 swarm for every 20 colonies that were wintered in this county. In the spring of 1878 I had only 36 colonies to begin with, against 45 last spring.

EDMUND HAYNES.

[The article in the August number of the JOURNAL, referred to above, was made up from extensive correspondence in the several States, and the estimates were based upon the number of bees *wintered through*. It will be found about correct in the main, but of course many districts may be found both below and above the figures named. —ED.]

Otsego, Mich., Aug. 11, 1879.

As but few bees are run on hired labor, I send you report of my hired man this season with the extractor. The linden season was short and poor; the clover fine. We have 27 bls. of clover and linden, or about 10,000 lbs., in new oak barrels made for the purpose, which do not leak and are not waxed. We use in our apiary 250 regular hives full of nice old combs, and 75 to 100 empty hives exact duplicates of those containing combs or bees. Nearly every cell of honey is capped in our apiary before it is regarded fit to extract, or extracted. The uncapping is all done with a Bingham & Hetherington uncapping knife, and the bees are controlled with two large size Bingham smokers, one of which is usually in use. The work is all done by a hired man (I mean most all), for I did uncap five hives one day for him to extract, and he had combs as fast as he could get out the honey. Our (spring) May count was 65 colonies, all fine. Our August count is 115 ready for "biz" on buckwheat, and we have faith in the fall crop, as we have never failed but once in 11 years—that was the fall of the great fire,—so if we should fail again we shall expect a great fire and to lose all our bees. I have seen inquiry as to how much honey is required to make vinegar. Our cappings are drained 24 hours and then rinsed or soaked 3 or 4 hours in ⅔ of a barrel of spring water. The cappings are then squeezed into balls like snow-balls, and laid away. This rinsing is continued in the same water till it will float an egg. It is then put in a tub, made by knocking the head out of a whisky barrel, and covered with mosquito bar and loose boards or the old head laid on, and set in a cool place. In one year it is better vinegar for all purposes, than was ever made from cider, and of the most beautiful flavor and color. T. F. BINGHAM.

Barnesville, O., July 12, 1879.

Our bees are not doing much—no swarms and but very little honey. On examining one of my colonies a few days ago, in which I had 2 cases of 4 sections each, Gallup size, I found sealed drone brood in one section, and thought to behead them and have honey put in. On trying to remove some of them found them very tender, so that they would not draw out of cell. On a little examination, I thought them "wrong-end to," but could scarcely believe it; so we cut out a portion of the comb, and removing part of the cell, there they were, sure enough, with their heads to the center and that by the dozen, too; and on both sides. As this was new to me, I showed it to several of my bee-keeping friends, to all of whom it was also new; but as we are mostly beginners in bee-culture, we want to know what the JOURNAL can say about it for us. The colony is a fair to good one, with nothing peculiar in regard to it so far as known. We have faith in the JOURNAL.

PETER SEARS.

[The phenomenon mentioned above is a "new departnre," and it would be difficult to ascribe it to a positive cause. In fact, the only way in which it can be determined satisfactorily, if at all, is by close study of the case, and experimenting with the queen and bees possessed of such *wrong-end* tendencies.—ED.]

Butlerville, Ind., July 7, 1879.

Bees in Jennings County have done very poorly this season, either in swarming or storing honey. The poplar or tulip failed to bloom as usual; besides not much here, and to-day bees are doing nothing—blacks or Italians. The first honey harvest is passed by, and was the lightest I ever knew. I have bees now on all of the combs that I lost bees from last winter and spring. I believe that in windy weather flowers do not secrete as much nectar as in calm weather, even with plenty of moisture. I hope we will have a better autumn honey flow, as we have plenty of wild asters and goldenrods which will give a good bloom till frost. Bees have stored so little honey here this season that some bee-keepers are going to quit the business entirely. July 25th.—At this time bees are doing some better, yet it is dry. There is some honey-dew. On page 298 of the AMERICAN BEE JOURNAL, Mr. W. Bolling, of Dunkirk, N. Y., complains of the little black ants on the top of his hive or honey board. By close observation he will find they do but little harm; perhaps more good than harm. They destroy the moth-worm or grub and eggs deposited there. I will say in answer to Mr. James Heddon's question, as to the irritative effects of propolis on the bronchial tubes, that it is undoubtedly so, as the dust of the propolis has the same effect as pulverized pepper. WM. MARTIN.

☞ A correspondent in Kansas or Missouri sent us in July a sprig of vervain, with inquiry as to its name, etc., which we forwarded to Prof. Cook, who has inadvertently mislaid the letter and address, but has kindly answered the inquiries. Any person having sent a letter of inquiry in that month and not finding the same in print, will appreciate the following answer from the Professor: "The plant is the *verbena stricta* or hoary vervain. I can well believe that it is a valuable honey plant, as our common blue vervain (*V. hostata*) seems to yield much nectar, while the white vervain has surprised me the past two weeks. The dry weather has even dried up the nectar fountains of our borage, mustards and motherwort, yet the white vervain (*V. uticifolia*) is covered with bees from morning till night. This plant grows on low, damp places and so is more or less independent of drouth. I know of nothing more worthy to be sown in damp wastes for bee forage. It would take the place in such cases of motherwort and sweet clover on waste or unoccupied high ground. Our teasel came into bloom one week before the basswood, and remained in bloom more than one week after the linden had ceased to attract the bees. All this time it was freely visited by the bees."

Kane, Greene Co., Ill., Aug. 5, 1879.

I commenced in the bee business with 2 colonies, in 1877, and in 1878 I increased to 7 colonies, all in Armstrong's centennial hive; wintered on summer stands with perfect success. I have now 15 colonies, all doing well—that is, they are raising large broods and keeping honey and pollen ahead; no surplus honey yet, for it has been almost a famine here for the "blessed bees." There is plenty of buckwheat sown, and if it rains soon we may have a good fall harvest. My bees did splendidly in swarming; I never lost any. I am trying to Italianize my bees. June 11th I found a bee tree, and on the 12th we cut it and put the bees in hive No. 8. The queen was lost, and on the 13th, late in the afternoon, a bumble bee went into the hive, and the next day the bees swarmed, and you never saw such crooked traveling. I used water, bells and dirt and they heeded it not, and I gave them up. They returned nearly back to the yard and settled on a little sprout about a foot high. I placed the same hive near them and brushed them off on the platform with an old wing, and found the queen bumble bee in the middle of the wad of bees. I killed her, then the bees went into the hive. I gave them brood comb with a queen cell on it, and they are doing well. Inclosed in a quill find a little spider or insect; please tell which, for it is the bees' friend. They are about all my hives, and the moth is nearly disinherited in my yard. About the 1st of July I saw a moth miller buzzing around hive No. 6 on the platform, then to entrance, but the bees turned her on the back track; as she turned the corner, the small spider jumped about 2 inches and caught her by the head and killed her instantly, and carried her off. They don't make much web. I now see these spiders between the division boards in every hive, where in April and May there were scores of moths and millers. As to oils, my wareroom, where I keep my coal oil and oil barrels, the floor is oiled all over, and I paint my hives early in spring and store away in this room till I need them; two hives I painted and put bees into while not dry, and I had no trouble with them. I poured kerosene all around and under some of my hives; no trouble yet. I used it to destroy the ants. The robbers from the woods give me trouble. The first part of July one small brood went into hive No. 14; there was war for a short time. I saw them come; I was watching the course of robbers. I closed all the hives down very small, so they made peace. After a few thousand were killed the robbers surrendered and went to work all right in the same hive. I dread robbers from the timber, as they are bad in such seasons. I wish never-dying success to the AMERICAN BEE JOURNAL.

RADFORD M. OSBORN.

[The insect you sent was shriveled and dried into so small a compass it would be impossible for any entomologist to determine its species and characteristics.—ED.]

Polo, Ogle Co., Ill., July 31, 1879.

Allow me to trouble you with an inquiry: One of the 7 colonies I set out in the spring began the last of May to lose bees. They would come out on the alighting aboard and seem in great pain, as evidenced by great uneasiness and a kind of tremor, rubbing their bodies and wings and sometimes appearing to shake themselves as if to dislodge something. They were weak and when off the board could not return. Occasionally found bees crawled into crevices between frames, and either dead or dying. Colony has lost as many as its increase; has gathered considerable stores. There is no smell about hive and it is clean; was changed when first observed that they were sick. More bees seem to die in bright sunny days than in cloudy and cool ones, or then sick bees venture out and are seen. I see none of the characteristics of dysentery. Sometimes observe the abdomen appears swollen; at others quite shrunken. Most all the bees affected either never had or completely lose the last two bands, and that part occupied by them is black and glassy in appearance. Thinking that it might be fault of queen, at suggestion of Dr. Allabin, a gentleman of large experience in bee-keeping, took her away and gave colony a cell from which they have now a laying queen, but there is no improvement. What is the matter, and what shall I do with the colony? An answer in the JOURNAL would be greatly appreciated. The bees are idle here now for lack of pasturage. J. H. MORE.

[The complaint described above is one of those peculiar features occasionally arising among bees, as well as in the human family, frequently without precedent and often inexplicable. It may have arisen from some cause produced during winter or spring, or from one of many causes which would require much investigation to determine. Not being able to answer the inquiry satisfactorily in our own mind, we forwarded the letter to Prof. Cook, and were favored with the following indorsement: "I have heard of several similar cases. Bees have been sent to me, but I could discover no trouble. My opinion is, that it is a fungous trouble, but this is only a guess."—ED.]

Callicoon, N. Y., July 25, 1879.

The season of basswood and clover bloom in this county has not yielded well, owing to its having been too wet and cold, especially evenings and mornings, cutting off the usual best hours of labor. With us the Spring honey crop is cut short at least 50 per cent. A. E. WENZEL.

Lincolnville, Ind., Aug. 11, 1879.

My sample hive, with prize boxes and tin separators, which I ordered from Hartford, Wis., came to hand, and I put the first swarm into it June 5; took the boxes out the other day all full of nice comb honey in good order. I might perhaps have had another set filled, if I had had them. I must try to have a thousand or two of them ready for another season, together with enough broad frames to hold them. This is the nicest way of obtaining honey in good shape I ever tried. I have been using 2-story hives, and cutting the honey out of the upper frames. I had a swarm June 26, which I put into one of these hives, and July 8th I opened it and cut out 27¼ lbs. of nice, white comb honey, leaving the comb in one of the frames above and not interfering with any in lower story. Who can beat that? The hive has 9 frames below and 9 above; the frames are 11 inches square. The 18 frames were all filled in 12 days. My bees are the native gray or yellow bee, and are good workers; I do not know whether the Italians are any better or not. I received 3 queens from H. A. Burch last Saturday, and introduced 2 of them in 2 of my hives, after taking out their queens. I think it was not the proper time for Italianizing, being cool nights and a time of scarcity of honey. A great many robbers came among them before we could find the queen, as we had to go over the frames the second time before we found her; then, after sprinkling the combs and bees with sweetened water with a few drops of peppermint in it, and sprinkling well the Italian queen we introduced her. The colony, a strong one, then commenced a general slaughter, and next morning I found about a pint of dead bees around and in the entrance, nearly stopping it up. I cleared them away, searching diligently for the queen, but failed to find her among the slain. It is now about 48 hours since we introduced her, and the bees seem to be quiet and at work some. I am in hopes she is not killed. The other hive had not so strong a colony and we found the queen more readily. We took her out and introduced the Italian. We, however, did not proceed with this one as we did the other; we first smoked them, and then carried them under a shed, putting another hive on the stand to catch the returning bees. When we had the new queen introduced, we brought the hive back and placed it on its old stand, after removing the one we had placed there, shook the bees out of it and they entered their former home. We closed up the entrance so that but few bees could pass in and out at a time. There were not near so many killed at this hive as at the other. There seems to be a pretty strong guard at and about the entrance, and when a bee comes flying around suspiciously they dart at it. This is my first experience Italianizing; I don't know what the result will be yet. JOEL BREWER.

Paoli, Ind., Aug. 1, 1879.

Inclosed you will find sample of weed or bush. I would like for you to tell me what it is. The bloom is white, and the bees work on it all the day. I have been keeping bees 6 years, and I never knew so poor a season. I have known some young colonies to desert their hives on account of no honey. Please inform me if this plant will pay to cultivate for bees. B. M. LINGLE.

[This is sweet clover (*Melilotus alba*) and with the bees at the JOURNAL apiary has been the best honey plant this season. It commenced to bloom about the 10th of June, and at this writing (Aug. 4) our bees are gathering honey from it quite plentifully. In fact, the bees prefer it to mustards and all other plants growing in West Chicago, where it has been growing spontaneously along the streets and roadsides for years—certainly since 1871-2, and we cannot learn *when it was cultivated.* The honey from sweet clover is nearly or quite as desirable as that from white clover. We think if anything alone will pay to cultivate for honey, this will; but, unfortunately, it has the reputation of being good for nothing else. Why not plant your fence corners, lanes and by-ways with sweet clover?—ED.]

Rochester, Pa., July 18, 1879.

Inclosed I send you this plant. Will you let me have a name for it? It grows along the Ohio river, on the gravelly banks, from 2 to 3 ft. in height, and resembles sweet clover, but it is something else. It is very thick on the ground, blooms all summer and is the finest bee pasture that grows until frost comes. Please let me have a name in English (for it is a perfect harvest for bees) and confer a favor on the bee club here.

Wm. W. Cague.

[The twig you sent is, in plain English, sweet clover (*Melilotus alba*), and, as you say, is "a perfect harvest for the bees." It is worthy of all the praise that has been given it. In answer to B. M. Lingle,, Paoli, Ind., in this number of Journal, find our experience with it this season.—Ed.]

Crown City, O., July 22, 1879.

There are a great many bees kept in this neighborhood, mostly in common boxes or log gums in a hap-hazard way, and generally winter well. The greatest drawback is too frequent swarming, and the moth takes possession. Very dry here, and bees will hardly get winter supplies. They did very little swarming about here; are strong in numbers for winter. I will not have a pound of surplus from my 100 colonies. Success to the Journal.

C. S. Newsom.

Winchester, Va., August 5, 1879.

This has been the poorest season for surplus honey that we have had for 10 years; my yield will not be over half the usual amount per hive. All the bee-keepers I have talked with give the same report. We do not expect any fall surplus; in my experience of 12 years I have never obtained any surplus honey after July 15, except one year when I got about 15 lbs. per hive of fall honey in September. We have a great many bee-keepers in this county. There are more than 1,000 colonies of bees in and within 5 miles of town, not including the two or three that almost every farmer keeps. I had one swarm this summer; now have 94 colonies.

J. Few Brown.

Collins, Ill., July 21, 1879.

The loss of bees in this section has been 50 per cent. at least in this vicinity, during the winter and spring. Bee-culture is in a very low or backward state. I am doing all I can to get my neighbors to adopt frame hives of some sort, and am trying to persuade them to take some kind of bee-literature; have succeeded in getting some of them to subscribe for the American Bee Journal, which I think is the best authority of anything that is published. How is this? I undertook to Italianize my apiary, and removed all of the drone comb from all of my hives, and have kept it pruned out; but one of my young queens got fertilized and commenced laying in the nuclei hive, and then was lost or died; but the bees hatched out the brood and a portion of them were drones, hatched in worker cells and among the worker brood. The cells were built out a little longer than the rest. The drones so hatched were as well marked as those from the old queen, but not so large. The young queen must have been fertilized by some of my neighbors' black drones, for I had no drones from my old queen when she was fertilized. Will Italian bees, reared by black bees, be as bright-colored as those reared by Italian bees? I have thought I could notice a difference.

M. A. Newman.

[Your young queen was a drone-laying queen, caused either by want of fertilization in time or by injuries received. If a queen has passed too long a period before meeting a drone, the drone eggs are apt to predominate, and when there are no drone cells to deposit those eggs in, why worker cells would be the next in order. The queen was undoubtedly killed and removed by the bees as they would try to supersede her, when her infirmities became known. We think it matters not what bees rear the young ones, if the eggs are from a pure queen.—Ed.]

Platteville, Wis., July 21, 1879.

We had the best show for basswood honey this year that I ever saw; but who can tell what is coming? Just as the blossoms were nicely open and ready for the bees we had two all-night rains that washed the honey out clean, so the basswood honey crop was cut short. My bees worked on it only 8 days; it was done July 11th or 12th. The bees would steal or rob so bad we had to quit. I have the honey from 101 colonies of bees and their increase—8,200 lbs. so far, mostly extracted; a little over 80 lbs. to a colony—rather a small yield. But I think we will get some buckwheat honey yet, if the weather is dry. I find that wet weather is bad for honey, the flowers not secreting honey so well, and what we do get is thin.

E. France.

Greenleaf, Minn., July 18, 1879.

I commenced to keep bees last year with 3 colonies, and increased by natural swarming to 12; lost 1 this spring; had good luck last year, but this year they act as if they were deranged. There have only 7 new swarms come out, and 5 of these swarmed out when they were 2 days old; the first one clustered and I hived it again, and it stayed all right; but last Saturday the next one came out and left, and the same day 3 new ones swarmed. We had 1 hived and 2 others came out almost at once, but clustered separately on one tree. We hived them and put them into the bee-yard, and all at once 1 swarm left and went into the hive that we hived an hour before; I divided them, but did not find the queens; put a frame containing eggs in both hives, and they all seemed right till Monday. Sunday morning my swarm that left, or some other one, came back and went into the other one that came out the day before, and Monday they all swarmed out and clustered, and we tried to hive them, but they would get together.

We could find no queens in such a mass of bees, but at last they got into and onto 2 hives, about a swarm and a half in one hive I should think, and the other 2½ swarms in and on another. I put another hive on top, and I never saw bees work as they all do now. I put eggs and brood into the hive when I divided, but they would not stay. My old bees are mostly in box hives, but I am putting the new ones into frame hives: frames 17x10 in., 8 in a hive. I do not know what ails them—the pasturage is good. I have a small piece of buckwheat in bloom and a little mignonette. There is considerable basswood, any amount of sumac and other things. They worked well the 2 days that they stayed, had considerable comb and honey and some had eggs. I do not think they all had eggs. They were the largest swarms I ever saw. We were having extremely hot weather.

J. C. Peters.

Hokah, Minn., July 17, 1879.

I am a new hand with bees, and perhaps have a new idea as to wintering them. Would like to know if the following has ever been tried, and if so, what result; also your opinion of it: Make a box 16 feet long, 10 inches high and 16 inches wide, with places for frames to rest upon; set in 10 frames, then 1 frame with wire cloth; then No. 2 colony, then wire frame No. 2, and so on until you get 12 colonies in it, each hive to have an outlet. This box is to be inclosed in one 18x24 inches, to form a dead-air chamber; also to set out doors all winter. I think one will help keep the other warm, thus making it a good winter-house for the yellow pets. The American Bee Journal is a welcome visitor; my neighbor bee-keepers are very fond of it, as I cannot keep one any length of time. Bees have done well so far. Plenty of white clover and basswood.

Wm. Lossing.

[We doubt whether your plan would operate satisfactarily. The center colonies would undoubtedly contract too much heat, while trouble would arise from too close proximity of queens, with but the wire screen between, and we imagine a complete demoralization would ensue during winter flights.—Ed.]

Forestville, N. Y., July 22, 1879.

In reading the July number of the Journal, I see reports of heavy losses of bees in almost all parts of the country by dysentery. I would like to say that it is proved to my satisfaction that cold and improper ventilation are the prime causes of this disease. In preparing bees for winter, we should be very careful that the work is done in the best possible manner, and after placing them in cellars or other repositories, great care should be taken to keep an even temperature, occasionally warming the air very gradually 2 or 3° to dry dampness and purify the air in the repository. We should be watchful of the least change in the temperature and meet it; if cold, by fire; if warm, by snow or ice. All this can be done without disturbing the bees, if properly arranged, as I think disturbance greatly aggravates the disease. I have wintered the past two winters in a very damp cellar quite successfully, with but slight signs of dysentery, and am confident that I could have prevented that if I had not been called from home during a severe cold spell of weather, consequently the temperature in my cellar became too low. Some time perhaps I will give my manner of preparing my bees for winter, and report my success from time to time. The American Bee Journal grows in interest with every number.

H. D. G.

Iola, Calhoun Co., Fla., July 28, 1879.

Inclosed find a sprig of a vine growing in our swamps. We are anxious to know what it is. Will you please send it to Prof. Cook and advise us through the Journal? We have taken 500 gallons of honey this year, and will get 50 or 60 gallons more, as the vine we send a twig of is now in bloom, and will continue until September. We have also taken several thousand pounds of beautiful honey in glass. The Journal is a great treat to us.

Alderman & Roberts.

[The specimen sent is too small for identification.—A. J. Cook.]

Bethany, Ill., Aug. 1, 1879.

Bees in this section gathered considerable honey from white clover and the tree blossoms previously, but have had but little disposition to swarm this season; too much honey in the brood chamber, and, of course, they did not get strong enough to store much surplus honey. The past 3 weeks they have gathered but little, but have been breeding very fast all the time, and have used the honey in the brood chamber, thus becoming in good condition for the fall honey yield, if there is any. At present the weather is very dry in this county.

A. M. Rhodes.

Martinsburg, Mo., August 6, 1879.

Enclosed find a twig, with leaves, flowers and berries taken from a small shrub which grows about 2½ feet high; the berry is red when ripe. A great number of bees are on it from early in the morning until late at night. Will you please give the name for it?

E. R. Douglass.

[This is *Symphoricarpus vulgaris*, a shrub belonging to the honeysuckle family. —W. J. Beal.]

Canton, N. Y., July 28, 1879.

Our bees have just finished up their work and we are blessed with a good honey crop. The spring was very promising, and the 1st of June found our hives full of honey and bees, but the first 12 days were cold and wet and delayed swarming. Since then the bees have lost but one day on account of rain, although the high winds hindered them very much. From briars they gathered plentifully, and from briars to white clover. In this section nearly every farmer sows alsike clover, but it blooms with white clover. If we could have had one more shower, this would have been one of the best clover-honey seasons for many years, but the dry weather cut it short for about 8 days. About the 11th of July bees struck basswood in full bloom about sunrise, and bee-keepers know how excited the bees become. We find ourselves with an abundance of honey, and have had one of the best of seasons. I report from my small apiary of 39 colonies the 1st of June, all told, 41 young swarms, and 2,000 lbs, of surplus honey. The price of honey in this section, I think, will be about 12½c. per lb. by the 100 lbs.

James Baird.

Farragut, Iowa, August 18, 1879.

I send you a branch of weed that I would like the name of in the next Journal; I thought it might be pepper tree, but do not know. I never saw but one stalk in this country, and cannot imagine how it came here. It is in my apiary, and has been in bloom over a month; is always covered with bees. Bees have not done very well here this year, being a poor summer. Last winter about 30 per cent. died. I wintered 20 colonies successfully in the cellar. They are doing well now. E. J. Rockefellow.

[This is *Scrophularia nodosa* or Figwort. For figure see Manual of Apiary, page 238. It is a common plant in the northern states, and is often referred to in Mr. A. I. Root's paper and book as Simpson's honey plant. —A. J. Cook.]

Pawnee City, Neb., Aug. 9, 1879.

I must say that I am very much pleased with the American Bee Journal; I am also a lover of the "blessed bees." Last year I commenced with 1 colony: increased that year to 7, and got $10 to $12 worth of honey. Through the winter a goodly number of bees died, and 1 came out queenless, but finally all recruited up again. This season, as far as I can find out, in this locality bees are doing very poorly, but very few have swarmed naturally. I increased mine to 12. Surplus we have none to expect, if they gather enough for their own use, we will say well done. P. Billing.

Brandywine Summit, Pa., Aug. 18, 1879.

My apiary house and about 2,000 lbs. comb honey were burned on the 11th inst. No clue to the incendiary has been found. Bees have fared the worst this season we ever knew. All the time the white clover was in bloom the nights were cold enough for October, and we could not get the bees to stay in the boxes over night; they would return to the brood combs. We took 3,000 lbs. from 200 colonies, all comb honey. They are working nicely now on buckwheat; if they continue another week, our crop from buckwheat will exceed that from white clover. I saw that the bees deserted white clover and worked very freely on red clover, something I never saw before. We would have lost our entire crop of honey by the fire, but, fortunately, had over 1,000 lbs. stored in another building. About 8 colonies of bees were ruined by the flames. Another apiary in the neighborhood was entirely destroyed by the building being set on fire, together with 25 colonies of bees adjoining. The apiary belonged to Marshall Fell, at Marshalltown, Pa. It was well cared for, and had been much admired for its beauty. When the wax got on fire in the hives, persons could not get any where near to remove the adjoining hives. J. T. Williamson.

Eminence, Ky., August 17, 1879.

Enclosed I send you a sprig of a plant that I have been watching for 2 years. Please tell me the name of it (the common name also); it stays in bloom about 7 weeks and is constantly covered with bees from morn till night, even in time of white clover bloom. It commences to bloom about the middle of June, grows in bunches like sage; grows mostly in low, wet ground; but I have some under cultivation in the garden with same results. I send you a few seeds. I set out plants; have never tried the seed. It surely is a fine honey plant. Answer in Bee Journal. W. T. Stewart.

[The sprig and seeds you send are motherwort.—Ed.]

West Branch, Iowa, Aug. 19, 1879.

Has there been any arrangement made with the C., R. I. & P. R. R., for reduced fare to the North American Bee-Keepers' Convention, to be held Oct. 21, in Chicago? If not, please see if anything can be done, as there will probably be a considerable number who will wish to go over that road to attend. Please answer through the Journal. Bees have been doing poorly for the past month in this locality. The honey harvest was of very short duration, and will not be more than half of last year's crop in amount. Colonies are generally stronger than last year at this time, on account of not swarming so much. Last season the bees had a general swarming mania.

C. T. Penrose.

[No special arrangement can be made with the above named road. When ten or more persons wish tickets at one time, from the same station to Chicago and return, over that, and nearly all other roads, they can be obtained in Chicago at excursion rates, which are one and one-fifth fares—that is, a reduction of four-fifths on the return tickets. The Journal, in its July number, p. 294, gave a list of all the roads with which the Executive Committee could make special rates.—Ed.]

Bloomington, Ill., Aug. 14, 1879.

Bees at present are at a stand-still. I have now in a fair condition 53 colonies, and my son has 73. We have some hopes of more honey in the fall. Plenty of rain, and an abundance of heartsease coming into bloom.

J. L. Wolcott.

Callicoon, N. Y., Aug. 19, 1879.

My estimate last month of honey crop should be reduced at least one-half, as we shall not get 25 per cent. of usual quantity. Buckwheat is now in full bloom, but the bees cannot get at it on account of unfavorable weather. A. E. Wenzel.

Coopersburg, Pa., Aug. 11, 1879.

I inclose you two species of bee plants to examine, and please report in the next American Bee Journal. The first (No. 1) is a sort of climbing shrub, and seems to be a great favorite with the bees, while No. 2 is also visited by them, but does not seem to please them like the former.

Preston J. Kline.

[No. 1 is *Clematis Virginiana* (common virgin's bower) and is undoubtedly a good bee plant, especially in dry weather, as it is a shrub and roots deeper than an herb, or rather has larger roots, and is less sensitive to drouth.

No. 2 is *Eupatorium purpureum* (trumpet weed or Joe-pyeweed). It is as nearly related to boneset or thoroughwort, as red oak is related to black oak, or white ash to black ash. I have received it from bee-men for several years past.—W. J. Beal.]

Mt. Pleasant, Iowa, Aug. 8, 1879,

Inclosed you will find a flower plant which you will please name. It is a prairie plant, growing along the edge of sloughs in cultivated fields, and flowers from Aug. 1st to frost; an annual; yellow flower with seed pods resembling those of the locust. I call it a beautiful flower plant, and one of the best honey producing plants in the West.

Chas. McMillan.

[Prof. Beal has kindly identified the plants as *Cassia chamæcrista*, patridge pea or sensitive pea. The partridge pea has often been praised, as will be seen by referring to back numbers of the American Bee Journal.—Ed.]

Columbus, Ky., Aug. 6, 1879.

I send you a specimen of a plant that abounds in this region. Never saw it till I came to what is called the Green river country in Southern Kentucky. It grows on almost all kinds of soil—by the roadside, on old rocky knolls, on old worn-out fields, in lanes and alleys, and on good ground. Dry weather is a mere circumstance for it. It is regarded as a great nuisance. But I observe that sheep and the Colorado potato bugs eat it with avidity. It blooms all the season through till frost; is rich in pollen. and the bees resort to it very early in the morning, especially in a dry season like this when other pasture fails. What is it? Never heard a name for it. No surplus honey gathered here, and a natural swarm this season has been a rare thing. The summer has been one of extreme drouth. I am feeding my weak colonies—such as were formed artificially this season. From Mr. Argo, of Lowell, Ky., I have learned an admirable plan for introducing queens at this late time, when robbers abound—or rather, it is for capturing the queen that is to be removed. Say it is a Langstroth hive. Take off the honey board, replace the cap, smoke well at the entrance; then close the entrance, and rap on the hive 5 or 8 minutes. In front of the hive spread a sheet on a board, lift the cap, and shake out the bees that are in it on the sheet 5 or 6 feet from the hive,—a third or more of the bees will be in the cap with the queen,—set the cap in front of the hive with its edge slightly raised, and the bees will crawl to it, and the queen can be easily observed and picked up. As soon as the cap is lifted from the hive a cloth should be spread on the latter to exclude robbers. In this way I have had the queen captured and caged, and the hive all in good order as at the start, in 6 minutes. Then you proceed to introduce the new queen, with the usual caution at this late season of the year. Rarely a queen will be found that will not leave the combs and go up into the cap. In that case I remove the hive, at 30 to 60 minutes by the sun in the evening, to some vacant room, shop or out-building, and search for the queen in usual way, and have not been troubled by robbers.

Geo. J. Reed.

[This is Solanum Virginianum. It is much like another called horse-nettle—a vile thing.—A. J. Cook.]

Grantville, Ga., Aug. 8, 1879.

Will the Rev. C. Lacy, who wrote on the "Bee Cell" and explains how they came thus, explain the formation of the drone cell? It will take drones to build drone comb, if his rule of sixes has to be worked.

A. B. Stroud.

Bee Creek, Ky., Aug. 16, 1879.

1. Is a colony of bees in a healthy condition if the old bees carry out young bees just before it is time for them to hatch out? I notice a few of the cells the caps have sunken in and some of them look as if there had been a pin stuck through the cap; most all my bees are that way. I have not noticed them taking out very many bees yet. 2. I have a hive that is queenless and without any brood except quite a number of drone cells that have from one to three eggs in a cell, and about half a dozen worker cells around the outside of the drone cells have eggs in; the rest of the hive is pretty well filed up with the bread and honey. They have a few queen cells capped over. What is the matter, and what shall I do with them? 3. How shall I get my bees to work in boxes? They are taking in lots of honey.

Ira M. Alling.

[1. No. The sunken cells are a pretty sure indication of dead brood, and the holes in the cappings are certain indications of it.

2. The queen was old and superanuated, or from some physical cause had become drone-laying. We would not like to waste time in testing the queens which may emerge from the queen cells. Better introduce a good prolific queen at once; as the old queen should have been superseded without compelling the bees to do so.

3. If your bees are bringing in lots of honey and not working in the boxes, it is an indication that they find plenty of room below. Contract your brood chamber or wait till they fill it.—Ed.]

Gibson Station, Ind., Aug. 18, 1879.

Herewith find bloom from plant and a bee that worked on it. The bees work very numerously on it, get their feet fastened, and other bees drag them loose. They go right back in the hive. I think the bees get plenty of honey from it. Please give name in the JOURNAL. CHAS. KELLER.

[This is a species of Asclepius or milk-weed. The bee also sent is loaded with the pollen masses. These saddlebag-like masses are illustrated in Manual, p. 233. Our bees have worked very lively on the milk-weed of late, as from the extreme drouth most flowers have failed, while the milk-weed on the *low* lands has continued to bloom.—A. J. COOK.]

Carlinville, Ill., Aug. 11, 1879.

You can place me in the "blasted hopes" column for this season. "'Tis awful!" We have obtained no honey this season, the weather being so dry that the bees got but little from white clover and linden. We are obliged to feed some colonies now, and all are getting short of stores, with poor prospects for fall honey. We planted a lot of buckwheat, but it has been so dry that but little of it came up, and that little does not grow. I could do but little in queen-breeding, the bees robbing the nuclei so badly I was obliged to unite them, and stop trying to rear queens. A few miles north and south of us bees have gathered some surplus honey, but in this vicinity they are starving. Worse than all, I have been terrible afflicted all summer—not able to be about more than one-half the time. You see things do not look very bright. Hope you and others of the bee-keeping fraternity may be prospering. J. M. VALENTINE.

Clifton Springs, Fla., Aug. 14, 1879.

I inclose you a sprig of a plant that grows here, blooming during the months of February and March. The blossoms, which are a pale blue, make their appearance on a cone-shaped burr about an inch in diameter and an inch long. It is located at the end of the stems. The plant grows on pine land, having scrubby undergrowth, with saw palmetto. In some localities it is quite numerous, covering acres of land. From the number of bees frequenting its blooms it must be rich in honey. It is claimed that honey produced from it has a peculiarly delicate and delicious flavor—the aroma of the plant being perceptible. It is called here pennyroyal, but does not resemble the plant known by that name which grows in Alabama, except in its odor. If you can ascertain its botanical name from the specimen and description, please give it through the columns of the next number of the AMERICAN BEE JOURNAL. A. B. BEALL.

[It is hardly safe to name plants without flowers, but from the stem I think this plant is without doubt the Hedeoma hispida. The American pennyroyal is H. pulegioides. Will Mr. B. send bloom when it is convenient?—A. J. COOK.]

Local Convention Directory.

1879. *Time and Place of Meeting.*

Sept. 2, 3.—N. E. Wisconsin, at Watertown, Wis.
17.—Warren Co., Iowa, at Indianola, Iowa.
30.—Southeastern Iowa, at Mt. Pleasant, Iowa.
Oct. 2.—Union, at Shelbyville, Ky.
2, 3.—Southern Kentucky, at Edmunton, Ky.
7.—Central Kentucky, at Lexington, Ky.
7.—Albany County, N. Y., at Albany, N. Y.
15—Central Michigan, at Lansing, Mich.
21.—National Convention, at Chicago, Ill.
Nov. 10.—Lancaster Co., Pa., at Lancaster.

1880.
Jan. 13.—N. W. Ill. & S. W. Wis., annual, at Davis, Ill.
Feb. 11—Northeastern, at Utica, N. Y.

☞ In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

Honey Markets.

CHICAGO.

HONEY.—White clover, put up in single-comb boxes, in slow demand. Prices paid for such, 10@12c. When more than 1 comb in a box, 9@10c. Dark, in the comb, slow sale at 9@11c. Extracted Honey, white, 7@8c.; dark, 6@7c.

BEESWAX.—Prime choice yellow, 20@22c; darker grades, 12½@15c,

NEW YORK.

QUOTATIONS.—Best fancy white comb honey, 11@13c; extracted, new, 7@8c; buckwheat comb honey, 8@10c; beeswax, prime, 25c.
H. K. & F. B. THURBER & CO.

CINCINNATI.

COMB HONEY—In small boxes, 10@12c. Extracted, 1 ℔. jars, in shipping order, per doz., $2.50; per gross, $28.00. 2 ℔. jars, per doz,, $4.50; per gross, $50.00.
C. F. MUTH.

CALIFORNIA.

It is now an assured fact that the honey crop is a failure. We have not received enough honey thus far to fill our orders. Comb honey, 12½@15c.; New Extracted, 8@10c. ℔ ℔.
STEARNS & SMITH, 423 Front St., San Francisco, Cal.

☞ A club for the BEE JOURNAL may be sent all to one post office or to as many post offices as there are names in the club.

☞ We wish to remind Canadian correspondents that we cannot use Canada postage stamps, and it causes much vexation to convert them into money.

☞ We can fill all orders during the remainder of this season for queens, mostly reared and tested in the AMERICAN BEE JOURNAL apiary. Our queens are all bred in full colonies, from the best American improved Italian mothers, and we have no doubt will give satisfaction in every case. We guarantee safe arrival. Price, $2.50 each.

☞ Owing to the reduced price of beeswax and a corresponding reduction by manufacturers of foundation, we can fill orders till further notice at the following figures:

1 to 5 lbs.,	per lb.	.47c
5 to 25	" "	.46c
25 to 50	" "	.45c
50 to 100	" "	.44c
100 lbs. or more	"	.43c

Wired and thin flat-bottomed as heretofore.

Business Matters.

OUR TERMS OF SUBSCRIPTION,

PAYABLE STRICTLY IN ADVANCE.

Single subscription, one year	$1 50
Two subscriptions, sent at the same time	2 50
Three " " " "	3 50
Four " " " "	4 50
Five or more, " " " ..each,	1 00

☞ If not paid strictly in advance, TWO DOLLARS per annum will charged in all cases.

Advertisements will be inserted at the rate of **20 cents** per line of Agate space, for each insertion, cash in advance. One inch measures fourteen lines. Special Notices 50 cents per line.

☞ A line will contain about eight words, fourteen lines will occupy an inch of space. Advertisements must be received by the 20th, to insure insertion.

Notice to Advertisers.—We intend only to advertise for reliable dealers, who expect to fulfill all their advertised promises. Cases of *real* imposition will be exposed, and such advertisements discontinued. No advertisement received for less than $1.

Address all communications and remittances to

THOMAS G. NEWMAN & SON,
972 & 974 West Madison St. CHICAGO, ILL.

TO CORRESPONDENTS.

When changing a post-office address, mention the *old* address as well as the new one.

We send the JOURNAL until an order for discontinuance is received and all arrearages are paid.

We do not send goods by C. O. D., unless sufficient money is sent with the order to pay express charges both ways, in case not taken from express office.

In consequence of the dearth of small currency in the country, we will receive either **1, 2 or 3 cent stamps,** for anything desired from this office.

Strangers wishing to visit our office and Museum of Implements for the Apiary, should take the Madison street-cars (going west). They pass our door.

Additions can be made to clubs at any time at the same rate. Specimen copies, Posters, and Illustrated Price List sent free upon application, for canvassing.

Remit by post-office money-order, registered letter or bank-draft, payable to Thomas G. Newman & Son, so that if the remittance be lost it can be recovered.

We will send a tested Italian Queen to any one sending us **FIVE** subscribers to the AMERICAN BEE JOURNAL with **$7.50.** The premium Queens will in every case be tested, but not sent till after July 1st.

Seeds or samples of merchandise can be mailed for one cent per ounce, Printed matter one cent for every two ounces. These must be tied up; if pasted, they are subject to letter postage. *Don't send small packages by express, that can just as well be sent by mail.*

For the convenience of bee-keepers, we have made arragements to supply, at the lowest market prices, Imported or tested Italian Queens, Full Colonies, Hives, Extractors and anything required about the Apiary. Our Illustrated Catalogue and Price List will be sent free, on application.

We have gotten up a "Constitution and By-Laws," suitable for local Associations, which we can supply, with the name and location of any society printed, at $2 per hundred copies, postpaid. If less than 100 are ordered, they will have a blank left for writing in the name of the Association, etc. Sample copy will be sent for a three-cent postage stamp.

Our answer to all who ask credit is this: We sell on **small** margins, and cannot afford to take the risks of doing a credit business. If we did such a business, we should be obliged to add at least 10 to 20 per cent. more to our prices, to make up for those who would never pay, and to pay the expenses of keeping book-accounts with our customers—this we know our **Cash** customers would not think to their advantage.—This rule we must make general in order not to do injustice to any one. The cash system gives all the advantage to cash customers, while the credit system works to their injury. In justice to all we must therefore require **Cash with the order.**

ITALIAN

QUEENS!

For August and September trade we shall breed from

Three Different Strains

of bees, which have distinguished themselves above all others the present season by giving

DOUBLE

The Average Yield

of honey, and proving gentle and uncommonly prolific. A duplicate of either of these queen-mothers is worth five times her cost to any one desiring to secure the "cream of our apiaries." Prices will be as follows:

Dollar queens, each	$1 00
" " per dozen	11 50
Warranted queens, each	1 50
" " per half dozen	8 00
" " per dozen	15 00
Tested queens, each	2 50
1 nucleus of 2 Modest frames, brood, bees and warranted queen	4 00
5 nuclei, do	18 00

Above, with tested queen, add $1.00 for each nucleus.

Full colonies in Modest hives	$7 50

COMB FOUNDATION!

at prices to meet any and all competition—43 to 47c.—cut to any size desired.

J. OATMAN & SONS,
8-9 Dundee, Kane Co., Ill.

FOUNDATION

AT GREATLY

REDUCED FIGURES!

Owing to the reduced price of beeswax, and a corresponding reduction by manufacturers, we can fill orders, till further notice, at the following **greatly reduced** rates:

1 to 5 lbs., per lb.	47c.
5 to 25 " "	46c.
25 to 50 " "	45c.
50 to 100 " "	44c.
100 lbs. or over, per lb.	43c.

The above prices include foundation manufactured on both the Dunham and Root machines. Wired and thin flat-bottomed sold at rates as heretofore published. Address,

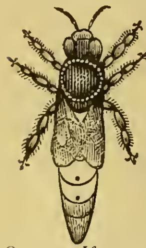
THOMAS G. NEWMAN & SON,
972 and 974 West Madison Street. **Chicago, Ill.**

Foundation Machines.

12 inches wide	$40 00
9 inches wide	30 00
6 inches wide	25 00

Every machine warranted. On receipt of 10 cents, I will send a sample of the foundation made by the machine. Machines for drone or worker comb at the same price.
12-tf JOHN BOURGMEYER, Fond du Lac, Wis.

Best American IMPROVED ITALIAN QUEENS!



We can fill orders for fine tested Queens, mostly reared and tested in the

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Our Queen Mothers are the best to be had in the United States, and the Queen-cells are all started in full colonies.

We are very careful in the selection of our breeding stock, and great care is taken in the propagation and culture of large, yellow drones. We do not rear dollar Queens. If a young Queen does not test A No. 1, she is not worth paying express charges on, and we would rather destroy her than disseminate poor stock. Fall is the best time to Italianize colonies, and the best Queens are most profitable. Address.

THOMAS G. NEWMAN & SON,
972 and 974 West Madison Street, **Chicago, Ill.**

Golden Italians.

We have them in their purity. Circulars and prices free.
J. M. BROOKS & BRO.,
4-9 Box 64, Columbus, Ind.

FOR IOWA AND MINNESOTA.

Purchase your tickets via THE IOWA ROUTE, composed of the Burlington, Cedar Rapids & Northern, and Minneapolis & St. Louis Railways. The only line running Through Pullman Palace Sleeping Cars between St. Louis, Burlington, and all points on the line of the Burlington, Cedar Rapids & Northern Railway and Minneapolis.

A full line of Excursion Tickets will be sold at principal stations for the noted summer resorts of MINNESOTA, from June 1st to October 15th, at a LARGE REDUCTION from regular rates. Tickets good for 60 days from date of sale, but in no case longer than October 31st, following date of sale. The Minnetonka Lake Park Association have bought and improved 225 acres of land, in which are located fine hotels, which will accommodate 3000 people. Besides the sources of amusement incidental to the lake, the Park Association will hold a Musical Convention July 28th to August 1st; Grand Temperance Congress of Iowa, Minnesota and Wisconsin, August 2d to 5th; Sabbath School Assembly, August 6th to 20th.

Don't fail to go and enjoy the attractions offered by Minnesota. B. F. MILLS, Ass't G. T. Agent.
C. J. IVES, Superintendent.

Italian Queen Bees FOR 1879.

I shall breed Italian Queens for the coming season, from imported mothers of undoubted purity. Safe arrival and purity guaranteed in every shipment. Prices very low. Circulars sent free. Address,
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Send Stamp and address
EPHRAIM BROWN, Lowell, Mass.
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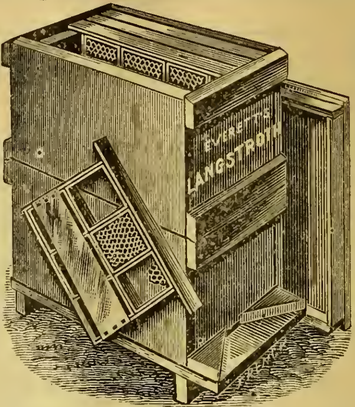
Honey Extractors and Hives a Specialty.



Apiarian Supplies, Italian Bees, &c., &c.

EVERETT BROS., 107 Monroe St., Toledo, Ohio.

LEWIS' SECTIONS, All in One Piece.

Owing to the many sizes of sections in use we cannot manufacture largely in advance, and in the honey season we cannot supply the demand, so we will sell the celebrated LEWIS SECTION, of White Basswood, nicely finished and sandpapered, until Dec. 1st, at the low price of $6.50 per 1,000, cash accompanying the order. Any size up to 6x6, or its equivalent.

WE CLAIM THIS TO BE THE FINEST SECTION IN THE WORLD, AND A SMALL BOY CAN PUT TOGETHER 6,000 PER DAY.

Send **5c.** for model section.
9-tf LEWIS & PARKS, Watertown, Wis.

BEFORE

purchasing colonies with imported queens, or home-bred queens, Italian Queens, COMB FOUNDATION, and implements in bee-culture, write for circular with prices, and sample of comb foundation free.

Our foundation for beauty and purity cannot be excelled.

TESTIMONIALS.

The sample of foundation is the nicest that I have ever seen, take all points together.
G. M. DOOLITTLE, Borodino, N. Y.

Your foundation is O. K.—it looks brightest of them all. Send me 200 lbs. more.
CHAS. F. MUTH, Cincinnati, O.

We have scoros of similar praises.

CHAS. DADANT & SON,
Hamilton, Ill.

Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send you a sample copy of our

Monthly Gleanings in Bee-Culture,

with a descriptive price-list of the latest improvements in **Hives, Honey Extractors, Artificial Comb, Section Honey Boxes,** all books and journals, and everything pertaining to Bee Culture. *Nothing patented.* Simply send your address on a postal card, *written plainly*, to A. I. ROOT, Medina, O.

CHEAP BEES!

Fifty Colonies at $4.00 each.

1t E. A. GASTMAN, Decatur, Ill.

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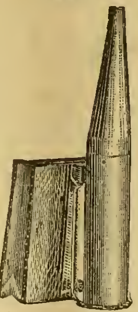
OLDEST AND BEST!

The old, reliable, original, direct-draft Smoker.

This Smoker is so perfect that it has never been improved. The more exact the copy the better the Smoker and the plainer the infringement. Beware of all new direct-draft Smokers — Bingham owns all there is of value in them. Every seller and user is liable. Our Smoker has been in use two years longer than any bellows Smoker now made. If you want the best Smoker and no further expense, buy only the Bingham. If you want to encourage invention and not theft, buy only the Bingham.

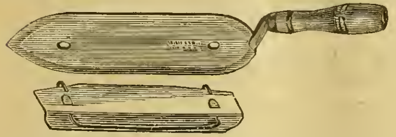


Standard size, 2-inch	$1 50
Little Wonder, 1¾-inch	1 00
Extra large, 2½-inch	1 75

Sent free, per mail, on receipt of price. A discount of 12 per cent. made from retail rates on all smokers sent by express with or without one or more Bingham & Hetherington patent Honey Knives.

Address, **T. F. BINGHAM**, Otsego, Mich.

Bingham & Hetherington
HONEY KNIVES!



Are used plain, if the combs are held upright, and with the cap-catcher, if laid on a table. They are not *like any other* honey knife ever made. They are superior in finish and temper, and do much more and better work. *No one can afford to be without one.* Plain, $1.00; with movable cap-catcher, $1.25. Send for Circular for dozen rates for Knives and Bingham Smokers to BINGHAM & HETHERINGTON,
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BINGHAM & HETHERINGTON have made arrangements with the American Express Company at Otsego, to carry honey knives over their routes and either one of the other Express routes named below at 18 cents per knife, in single packages. This arrangement, it will be seen, will carry knives to all places where one of the Express Companies mentioned is located: American, Adams, United States, National, Union, Central, New Jersey, Delaware, Lackawana and Western. Address,
BINGHAM & HETHERINGTON,
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SPERRY & CHANDLER'S
NORTH STAR HIVE.

There are now over 1,000 of these Hives in use in different parts of the United States, and wherever tried they are pronounced the best Hives before the public for all general and special purposes. We are now prepared to promptly fill all orders for the North Star, or Improved Langstroth, with our patent Manipulating Side. Samples of surplus honey taken from the North Star, as also our hives in use, may be seen at the American Bee Journal office. Send for illustrated circular—correspondence solicited.

Address SPERRY & CHANDLER,
974 W. Madison Street,
Or AMERICAN BEE JOURNAL, Chicago, Ill. 8-tf

ITALIAN QUEENS—All bred from Imported Mothers of my own importation. Dollar and Tested Queens from 1st April to 1st November. Full Colonies and Nuclei; Bee-Keepers Supplies of all kinds; Comb Foundation, etc.
6-tf PAUL L. VIALLON, Bayou Goula, La.

IMPORTED QUEENS!

We are receiving Queens from the best districts in Italy, which we can sell at $5.00 each, and guarantee safe arrival.

They are to be light, large and active. Any that do not come up to this standard we will dispose of at $4.00 each. If a number are ordered, a slight discount can be given.

No circulars issued, or Cyprian Bees for sale at present.

Registered letter or money order sent at our risk.

C. W. & A. H. K. BLOOD,
P. O. Box 234, **Quincy, Mass.**

1865.— THE —1879.

HONEY HOUSE.

C. O. PERRINE, 54 & 56 Michigan Av., Chicago.

As a Manufacturer of

COMB FOUNDATION,

I can say my goods have given entire and universal satisfaction. The ruling low prices were made by me, and any one desiring any considerable quantity would do well to consult me before buying elsewhere.
☞ Market price for Beeswax.

BEFORE

purchasing colonies with imported queens, or home-bred queens, Italian queens, COMB FOUNDATION, and implements in bee culture, write for circular with prices, and sample of comb foundation free.

Our foundation for beauty and purity cannot be excelled.

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The sample of foundation is the nicest that I have ever seen, take all points together.
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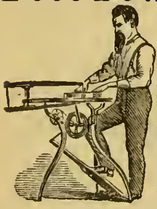

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Devoted Exclusively to Bee Culture.

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Editor's Table.

☞At the Prague Bee and Honey Show, there were 226 exhibits including over 10,000 items.

◆

☞The Editor received many more invitations to visit prominent apiarists than he could possibly accept, while on his European tour. This he regretted, but as he was under obligations to be home to the National Association, on the 21st instant, his stay could be prolonged no more.

◆

☞Honey was exhibited at Prague from Palestine, Greece, from the ancient and celebrated Mt. Hymettus, from Hungary, Italy, Russia, as well as Austria and Germany, Denmark, Holland, &c.; but we found none that surpasses the white clover and basswood honey of America. With our varied and unsurpassed amount of bloom, America need not hesitate to exhibit its honey side by side with that of any country on the face of the earth.

◆

☞We enjoyed an excellent visit at Prague with the Rev. Dr. Dzierzon, Herr Augustus Schmidt, Prof. Sartori, Herr Vogel, Herr Hilbert, Prof. Butlerow, Herr Gatter, and a host of other leading apiarists of Germany and Austria, as well as with that Honorable lady, the widow of the late Baron of Berlepsch, who speaks fluently several languages and is an accomplished, and very agreeable as well as distinguished lady.

Bee-Culture in Continental Europe.

After visiting many of the leading apiarists of England, the editor of the Bee Journal took his departure for the Continent of Europe, in accordance with the programme heretofore published.

FRANCE.

From London *via* New Haven, across the English Channel, to Dieppe, an *old* Norman town, we went on our way to Paris—the most beautiful city of the world. We arrived there in the night, and saw it first by gas-light. It was so magnificently lighted, and seemed so busy even at midnight, that it was no stretch of imagination to think it was but noon. We visited the Pantheon, the Tomb of Napoleon, the Luxembourg, the Louvre, the Arch de Triomphe, the Tuilleries, the churches, the remarkable buildings, the Boulevards, the Champs-Elysees, the Jardin des Plants, the Bois de Boulogne, the ruins of the Palais Royale, and went up in the balloon from the Tuilleries to view the city and see its magnificence. In this country bee-keeping appears to be, as yet, far behind in the matter of scientific management and improved implements—straw skeps and box hives being nearly the only hives in use. *L'Apiculteur*, the Paris bee paper, takes ground quite strongly against movable frames and similar Yankee inventions. When we visited the editor, Mons. Hamet, he exhibited a small queen-cage, similar to those in use in the United States for years past, and thought it the newest thing out, and a very nice thing. It had come to him within a few days from Italy, and as it was the first he had seen, he thought it a very nice and *new* thing! When we informed him that such had been in use in America for many years he appeared almost (if not quite) to doubt our veracity!

We were accompanied to Mons. Hamet, as well as conducted around the magnificent city of Paris, by our friend Mr. Arthur Todd, of Algeria, Africa. He has been carrying on bee-keeping in Africa for some years, but thinks he will be more successful in Europe, and has determined to move to some location in France or Italy before next spring. Mr. Todd is fully alive to the needs of the times in the way of improved methods of bee-culture, and we wish him success.

We much regret not being able to visit Mons. L'Abbe DuBois, Cure a la Malmaison, near Neufchatel in Aisne, a province of Northern France (Old Normandy). We had fully intended to do so, but our route led us by the way of Dieppe, and we could not get there and fulfill the engagements made in Paris with Mr. Todd—having been detained in Bristol, England, two days by sickness.

ALSACE.

Leaving Paris, we went to Strassburg, in Alsace, an old and justly celebrated city. Near this city is Enghien, the home of Mons. Dennler, one of the editors of the Alsatian bee paper. We enjoyed a day's visit with Mons. Dennler, and interviewed his bees, as well as those of his neighbors. He is a progressive bee-keeper, using all the newest implements of the apiary, and advocating their use in the bee paper which he publishes in company with Mons. Zwilling; the latter we regret not to have seen, but he lives some distance away, and we were obliged to deny ourselves this pleasure. We were to have met Col. Pierson, with whom we enjoyed a pleasant visit in London, but he was detained by sickness from coming to meet us again.

SWITZERLAND.

By the way of Basle, Berne, (the capital city,) and Fribourg (Lausanne), along the coast of the world-renowned Lake Geneva, in sight of those everlasting hills capped with eternal snow and ice, we journeyed to Nyon, the home of Mons. and Madame Bertrand. Their chalet is situated in a lovely place on the shore of Lake Geneva and in sight of the magnificent Mont Blanc. Here we arrived in the evening, and met with a very hearty welcome. The Rev. M. Jacker, a Catholic priest, and

Vice-President of the German-speaking Association of Bee-Keepers of Northern Swisse, who is also the lecturer on bee-keeping for the Association, was here to welcome us, and we enjoyed the visit very much till it was interrupted by a telegram requiring him to leave for home at once on account of the serious illness of his beloved mother. On the morning after our arrival friend Bertrand called us out into his beautiful lawn, where at the top of his flag-staff was flying the American flag in honor of our visit, and there it remained until after our departure. We shall *never* forget our visit at friend Bertrand's—we arrived very weary with our long journey and were shown every attention by him and his estimable lady, Madame Bertrand.

After a day's rest, in company with the President and Secretary of the Society d'Apiculture Romand, Swisse, we went to the Lausanne and attended the meeting of the Society. The discussions were very interesting, and the display of honey and apiarian implements was a credit to this young but energetic Society. We were received with the utmost cordiality. The Secretary's report of this meeting will be found on another page.* We explained American honey resources, implements, and management of the apiary, in several speeches, and the Society passed (with enthusiastic Swiss honors) a vote of thanks to the North American Bee-Keepers' Association for its kind consideration in sending a representative to the Bee Associations of Europe, and particularly to the Society d'Apiculteur Romand, Swisse. By no means is Switzerland behind any other country of Europe in the matter of apiculture.

ITALY.

Our space forbids us speaking of *all* the interesting incidents of our journey, and of the places we have visited—of the Americanized city of Geneva, sitting like a queen of beauty at the foot of the magnificent lake of the same name; of Turin, the capital of Piedmont, with palaces, churches, and academies of science and art; of Genoa, one of the chief ports of Italy, with its picturesque scenery, views of the Mediterranean Sea, and Cathedral and Tower of Santa Maria de Cavignano; of Pisa, with its ancient leaning tower and cathedral of 1,000 years' standing; of Rome, with two of the most magnificent churches on earth (St. Peter and the *new* St. Paul), the Colosseum, the Pantheon, the Forum of Trajan, the Theatre of Marcellus, the Temple of Fortune, the tombs of the ancient Emperors, the Obelisks brought there from Egypt (one said to be 8,000 years old as deciphered from its hieroglyphics), and thousands of other historic monuments, buildings and valuable stones and relics; of Florence (founded 2,000 years ago), the home of science and learning, and associated with such names as Dante, Galileo, Michael Angelo, Raphael, and others, whose learning and works of arts have received the adoration of a world for scores of ages; of Bologna, noted for its old University, leaning towers and academy of art; of Milan, with its magnificent city and enchanting summer gardens; of Venice, the ancient city of rapturous song, built on 117 islands, connected by 378 bridges for foot passengers, all traffic being done on the streets of water in gondolas (boats of peculiar construction), of which there are over 3,000 ever plying on the water streets. In the midst of the labyrinth of canals and streets there are several large piazzas, nearly all of them adorned with splendid churches or magnificent palaces—the principal one being the Piazza of San Marco, surrounded by elegant buildings and containing the Church of San Marco, a singular but brilliant combination of the Gothic and the Oriental styles of architecture, is said to contain the relics of St. Mark, the stone on which John the Baptist was beheaded, a piece of the Cross of Christ, and a bit of the skull of John the Baptist. Connecting the Palace of St. Mark with

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This report, as prepared for the AMERICAN BEE JOURNAL, will be found on page 474.

the Prison is the celebrated covered Bridge of Sighs, where so many went over never to see daylight again. At Venice we witnessed the Royal Regatta, and saw the Queen of Italy award the prizes.

We cannot dwell on such things even of so much interest. Near the city of Rome there is the largest apiary in Italy—the proprietor, Andres Turtuferi, at Romagna Cesena, having 1,200 colonies of bees. Near Bologna, Signor Pietro Pilati has five apiaries and a fine lot of bees. We enjoyed a very pleasant visit with him, as well as from Herrn Lucio Paglia, who also has an apiary at Castel S. Pietro de l'Emilia, a village 15 miles distant.

At Milan we made the acquaintance of Signor Alfonso Visconti de Saliceto, the editor of *L'Apicoltore*, the Italian bee paper, and Count Gaetano Barbo, a descendent from one of the ancient illustrious families of Italy, and President of the Central Society d'Apicoltore d'Italy. The former is descended from the ancient aristocratic family of that name—to his ancestors belong the glory of building the great Milan Cathedral, the largest marble structure in the world—a fine large photograph of which he has presented, in company with Signor Barbo, to the AMERICAN BEE JOURNAL Museum. We dined with these gentlemen on Sept. 1st, and took breakfast with Count Barbo and his mother on the 2d of Sept. These meals were of the true Milanese style, where our friend, the Count, was rather "imaginationeous," there is nothing of the kind in the Milanese manner of providing for the human stomach.

At Milan are several good apiaries—Count Barbo, Visconti di Saliceto, Dr. Dubini, and Signor Sartori being among the most extensive—the latter also manufactures and sells all kinds of apiarian supplies.

AUSTRIA.

Leaving Italy by the way of Verona, one of the strongest fortified cities of Italy, having also a well-preserved Roman amphitheatre, with seats for 24,000 persons, we passed through the Tyrol, over the Alps to Munich, Germany, which is one of the pleasantest cities of Central Europe, with fine public buildings and numerous parks adorned with statuary. From thence we went to Vienna, the capital of Austria, a city of modern buildings and parks, as well as fine old historic attractions. Here we met Herrn Karl Gatter, mentioned in our little pamphlet, "Honey as Food and Medicine," a very pleasant and genial gentleman, as well as Mr. Edward Drory, who was for some years connected with the Bordeaux bee paper in France, and who is still much interested in bee-culture.

From Vienna we journeyed to Prague, the capital of Bohemia, which is a commercial city of considerable importance and of many historic events. Here we saw the Crown Prince of Austria, and the Imperial Castle. The Crown Prince's Secretary is much interested in bees, and has several colonies in the Imperial gardens. He is a genial gentleman and a progressive beekeeper. Here, also, we met Herrn Rudolf Mayerhoeffer, the editor of the Austrian *Bienenvater*, and Secretary of the Austro-German Congress. He is an energetic man, and received us very cordially. Prof. Marsher also lives here, and is an enthusiast on bees and bee-culture. We made many very agreeable acquaintances in Prague, and shall long remember our visit to that city.

THE AUSTRO-GERMAN CONGRESS.

The festive opening of this Congress took place on Sept. 7th at 10 a. m., at Prague, and was honored by the presence of His Excellency, the Hon. Baron Von Weber, Governor of Bohemia, and who formally opened the Exhibition. Among the noted apiarists present were the world-renowned Rev. Dr. Dzierzon; the Hon. Augustus Schmidt, editor of the *Bienen Zeitung*; the Baroness, widow of the late celebrated apiarist, the Baron of Berlepsch; the distinguished Herrn Emil Hilbert; Herr Prof. Dr. Butlerow, of Russia; Prof. Louis Ritter von Sartori, of Milan, Italy; Otto Schultz, of German comb foundation notoriety; Count Kolovrat, of Prague; Herr Vogel, and many others widely known for their apistical knowledge, inventions or experiments.

The exhibition of living bees was very large, and in every imaginable size and shape of hive—from the clay tube of Palestine to the movable frame hive of America. The bees were well-marked and attractive in appearance, many being Italians, but there were some Hungarian bees exhibited by the Apiarian Society of Vienna, and several colonies of Cyprian bees. Many were in observation hives, others in hives of fancy and grotesque shapes, and one colony in a hollow statue of a standing deer, the entrance being in its breast, and the opening for frames in its side.

A peculiarity exhibited by the Rev. Dr. Dzierzon, was a colony of Italian bees with two queens—one being a pure queen and the other a hybrid.

The display of empty bee-hives was very great; one thing may be said in their praise, that the majority of them contained movable frames.

The show of honey and wax extractors was very good; although not up to the American machines in simplicity, still they were effective and calculated to aid in the scientific management of the honey-bee. One honey extractor (the Muth) being the only American machine exhibited.

In smokers the display was *very* large, but they were mostly cumbersome and clumsy machines, nowhere to be compared to the three Bingham bellows smokers exhibited from America.

Honey knives were abundant, but none of them stood well in comparison with the Bingham & Hetherington honey knife, which called forth unlimited praise from such experienced men as Dzierzon, Hilbert, Butlerow, Karl Gatter, &c.

In the line of comb foundation, Otto Schultz has an immense exhibit made from all kinds of wax. It is very nice and creditable.

Much interest was shown in the model Langstroth hive, comb honey rack, cases of 3 and 8 sections with separators, queen cages, comb foundation, and bees and drones in bottles which we exhibited, as well as Cook's Manual and the other works published at the AMERICAN BEE JOURNAL office.

In the line of honey and wax, the show was very fine. The extracted honey was put up in bottles and jars, the comb honey was mostly in small sections with straight combs, and looked very fine. The wax products were well represented. Wax candles, large medalions of wax representing the several majesties of the countries exhibiting, several pictures in *bas relief*, and wax items in almost every shape imaginable.

The honey wine represented all kinds of flavors, and was in quantity such as would do credit to the counter of a large wine merchant.

The honey cake and confectionery department was as good as it was large, embracing almost all kinds of cake, and many very excellent articles of confectionery. Denmark made a nice display of honey wines, liquors, meads, &c.

In the literary department were all kinds of bee books, journals, &c., as well as lithographic plates of bees, bee enemies, honey-producing plants, &c.

On the grounds you might hear all kinds of languages spoken—French, English, Italian. Russian, Bohemian, Servian, and all the dialects of German—it was truly an International Congress of Bee-Keepers.

HOMEWARD JOURNEY.

Leaving Prague, we visited Dresden, the capital of the Kingdom of Saxony; thence to Berlin, the capital of the German Empire, which is also a very handsome city; and thence to Cologne, the chief city of Rhenish Prussia, which is strongly fortified, and contains many things of general interest; thence to Brussels, the capital of the Kingdom of Belgium, and is situated only 12 miles from the celebrated field of "Waterloo," where Napoleon I. was defeated. Then by the way of Calais, we crossed the English Channel to Dover, and took the cars for London from whence we will take the steamship Greece on Sept. 19th for New York. We expect to reach home about Oct. 3d, but not until after the American Bee Journal for October is printed, and hence must leave editorial comment for our next issue.

☞ Prof. Sartori, of Milan, Italy, has lately been to Russia, in the interest of bee-culture, and has met with great success—the Emperor being much interested in the subject. Prof. Dr. Butlerow, Councillor of the Government, was the bearer to Prague, from St. Petersburg, of the Imperial distinction of the Order of Saint Anna, for his friend Dr. Dzierzon. This was presented to him with the usual ceremonies on Tuesday, Sept. 9th, at the Austro-German Congress at Prague. This honor, from such a source, is much appreciated by Dr. Dzierzon.

☞ During the Editor's stay in Europe he has seen two Queens, (England and Italy); two Crown Princes or heirs to the thrones, (England and Austria), and a large number of Royal Princes and Princesses, as well as having made the acquaintance of hundreds of the aristocracy of the several countries he has visited. But he considered it a greater honor and advantage to see her majesty, a queen bee from Jerusalem, in Palestine, and others from Crprus, Caucassia, Hungary, Greece, &c., with their Royal progeny. Not that he valued the former any less—but that he regarded a sight of the latter more interesting and beneficial.

☞ On the 29th of July last, Rev. A. H. Hart, of Appleton, Wis., departed this life. Mr. Hart was one of the oldest bee-keepers in the West, and was universally respected. A brief sketch of his life will be found on page 453 of this Journal.

☞ We have received a line from Mr. Frank Benton, disclaiming the authorship of "Style more Important than Quantity," which was printed on page 405 of the September Journal. The article was clipped from an exchange.

The National Convention for 1879.

The annual convention of the North American Bee-Keepers' Society will be held in the Lyceum Theater, (formly Globe) Des Plaines St., Chicago, Ill., commencing at 10 a.m. on Tuesday, Oct. 21st, 1879. Arrangements have been made with the Washington Hotel and Gault House (near to the Theater) for board and lodging of those attending the convention, at $1.50 per day.

Cheap round-trip tickets can be procured on almost all the railroads centering in Chicago.

The Executive Committee have made arrangements with the Great Western Railway of Canada to carry those coming to the convention, on a return ticket, at one and one-third fare; the Chicago, Pekin & Southeastern Railway at one and one-fifth fare; the Chicago & Lake Huron Railway at 2c. per mile each way; the Chicago & Eastern Illinois Railway, between Chicago and Evansville, Chicago and Lafayette, via Hoopeston and Chicago & Indianapolis, at one and one-fifth fare.

Those intending to avail themselves of these reduced rates must procure from the office of the Bee Journal, in Chicago, a printed certificate that they are entitled to such reduced fare, to present to the ticket-office when purchasing their tickets. If enough are coming over the Pennsylvania Central Railway, the Pittsburgh, Fort Wayne & Chicago, and the Cleveland & Pittsburgh Railways to warrant it, we can procure tickets specially printed, for 2c. per mile each way. It will be necessary for those coming over these roads to send their names to the Chairman of the Executive Committee, who will then forward the necessary orders on the local ticket-offices.

All are invited. Present indications point to a very large and enthusiastic meeting.

Thomas G. Newman,
Chairman Executive Committee.
E. Parmly, *Sec.*

The Executive Committe, appointed to make all arrangements for the coming Convention in Chicago, have so far progressed in their labors, as to be able to report the following topics and persons who will lead off in the discussion of them:

"Comparative Length of the Tongues of Different Races of Bees."—Prof. A. J. Cook, Lansing, Mich.

"Patents, as applied to Implements for the Apiary."—A. E. Wenzel, Callicoon, N.Y.

"How shall the mass of bee-keepers secure the largest income?"—Dr. C. C. Miller, Marengo, Ill.

"Wintering bees on summer stands."—J. E. Moore, Byron, N. Y.

"Monstrosities among bees."—S. C. Dodge, Chattanooga, Tenn.

"Dysentery as a bee disease."—E. Rood, Wayne, Mich.

"Fertilization in confinement."—Prof. J. Hasbrouck, Flatbush, Long Island, N. Y.

"Qualities in Bees."—James Heddon, Dowagiac, Mich.

"Foul Brood."—L. C. Whiting, East Saginaw, Mich.

"My Method of Queen-Rearing."—Wm. J. Andrews, Columbia, Tenn.

"A National Apiary and Queen-Rearing Establishment."—Wm. Williamson, Lexington, Ky.

"How to Prevent Swarming."—D. D. Palmer, New Boston, Ill.

"Should we try to Prevail on People to Keep Bees?"—W. M. Kellogg, Oquawka, Ill.

"Introducing Virgin Queens."—Rev. Dr. M. Mahin, Logansport, Ind.

"Can Bee-Culture be made Profitable? If so, how?"—J. H. Nellis, Canajoharie, N. Y.

"Something about Bees."—H. A. Burch, South Haven, Mich.

"Will the Rearing of Dollar Queens be Profitable to the Buyer and Seller?"—D. A. Pike, Smithsburg, Md.

"Comb Foundation."—J. W. Portor, Charlottesville, Va.

"Moving Bees."—N. P. Allen, Smith's Grove, Ky.

"The Next Progressive Step."—Frank Benton, Lansing, Mich.

"Wintering Bees, Theoretically and Practically considered."—H. H. Flick, Lavansville, Pa.

"Miscellaneous Topics."—M. M. Baldridge, St. Charles, Ill.

"Foul Brood; its Dangers and its Cure."—Chas. F. Muth, Cincinnati, O.

"Bee Forage in the South."—Dr. J. P. H. Brown, Augusta, Ga.

"Increasing the Demand for Honey."—Rev. O. Clute, Iowa City, Iowa.

Many of the Essays indicated above are now in the hands of the printers, and it will be gratifying to know all are of a high order, and cannot fail to elicit exhaustive discussions of the subjects treated upon. That this will be the most successful Convention of the kind ever held in this country there cannot be a doubt. Let every bee-keeper come with a determination to bear his or her part in the discussions, and be as willing to impart information as to receive it. Perhaps an old practice with you may be new to some one else. Comparison of practices may suggest theories, and experiments with theories may demonstrate scientific truths. We doubt not all will be well repaid for time expended (not lost) in attendance, and add to their store of knowledge to leave as an inheritance to their children and friends.

The National Convention.

Present indications point to the National Convention to be held in Chicago, commencing on Tuesday, Oct. 21, 1879, as one of the most interesting and important that have ever been held. Full arrangements have been made, and the President, who has been absent in Europe for the past 4 months, attending the Bee and Honey Shows and Conventions there, is expected home now every day, and in all probability will be at his post before this number of the BEE JOURNAL is in the hands of its many readers. He will make a full report of his observations in Europe to the National Convention, and will make suggestions as to the future honey production and honey markets of the World. He has gathered many interesting facts, and hopes that the bee-keepers of America will reap a substantial benefit as the result of their sending a person to represent them to the bee associations of Europe. He has not been idle, having traveled some twenty thousand miles in search of the information he has gathered; he has visited ten different countries, and conversed with thousands of the principal bee-keepers of the Old World; he has exhibited to them many of our most approved implements for the apiary, and has in return seen their best efforts in the same direction. The subject of honey production and marketing has been fully discussed, and he has the pleasure of *knowing* that much of the prejudice of the European bee-keepers against American honey has been done away, and also of witnessing the most enthusiastic demonstrations in favor of America and her honey products and modern bee management.

Let there be a general rally at the Chicago Convention. Every bee-keeper in the United States and Canada will find a hearty welcome.

Preparation for Winter.

This is the last opportunity of the season to caution bee-keepers to know the precise condition of their bees. Examine every colony thoroughly and critically. If they are short of winter stores, supply more this month; if you find a colony weak, double it up with the next weakest; if you find a colony queenless, give it a good queen immediately. Get your cellar ready this month for putting your bees in, should a cold snap catch them next month; see that it is dry; put in your ventilators now and prepare the windows for darkening at a moment's notice. If you conclude to winter out-of-doors, do your packing this month—the sooner the better, for rains are coming on, to be succeeded by cold, frosty nights. Leave nothing to chance; but perform your duty promptly, conscientiously, thoroughly. If you have fine stock, you prepare proper food and stabling for them; you are under as great obligations to provide for your bees, which are more helpless.

"Blasted Hopes" in California.

We were favored a few days since with a short visit from Mr. Harbison, who was *en route* to the Eastern States from Southern California. He reports the honey crop in his portion of California as a total failure; so much so, that instead of realizing a surplus from his 3,000 colonies of bees, his cousin, Mr. J. S. Harbison, has been obliged to feed largely to prevent actual starvation. The unfavorable weather of the early spring and the drouth of summer, combining to prevent a nectar secretion in the bloom of the white sage, which has heretofore been their main dependence for a surplus yield. In Northern California bee-keepers have been somewhat more fortunate, but even with them the yield will be far less than an average, and they will have none to spare to throw on the general market.

Exhibits for the Convention.

As there are many who may wish to forward articles of machinery, samples of manufactures, and specimens of production for exhibition in the Convention, we would suggest that they be sent a few days in advance, in order to make a better disposition of them. If forwarded by Express, with charges prepaid, we will look after them to the best of our ability, and endeavor to give all an impartial showing; but we can in no case be responsible for any damage that may occur.

☞ Mr. J. Pometta, whose arrival from Swiss-Italy with a large lot of pure Italian queens was noticed in September number of the BEE JOURNAL, will leave for his native country on the 2d inst. He expresses himself highly impressed with the improvements made in bee-culture in this country, and much gratified with our methods and machinery. He will take with him an American bred Italian queen from the AMERICAN BEE JOURNAL apiary, with a view of still further improving his stock in the old country; also takes with him a foundation machine, Barnes foot-power saw, and various other implements for manufacturing and as samples.

☞ At the Kentucky Agricultural and Mechanical Association Fair, held Aug. 26th, Messrs. Williamson & Bro. were awarded a premium, certificate and diploma on best display of honey; also, special premium in addition to the above for the best display of honey, of a handsome silver medal offered by the Central Kentucky Bee-Keepers' Association; also, premium, certificate and diploma on best display of bee-keepers' supplies. We feel quite confident these honors were well merited, as Messrs. Williamson are among the most progressive of the Kentucky bee-keepers, who are progressing in scientific bee-keeping as rapidly as in any other section of the Union.

☞ Especial attention is directed to the list of Essays on pp. 438–439, this number.

Northwestern Bee-keepers' Union.

At a meeting of the-bee-keepers of Minnesota, at St. Paul, on the 4th of September, they organized themselves into the "Northwestern Bee-Keepers' Union," and elected the following officers:

President—S. H. Barteau.
Vice Presidents—Wm. Amery, C. Caspar, C. S. Pierce.
Secretary—F. B. Dorothy.
Treasurer—Dr. P. Barton.
Board of Managers—J. E. Teter, W. H. Fletcher, Uriah B. Scott.

The annual meeting is to be held at St. Paul, December 9, 1879, at 2 p.m. There should be a good attendance, and we hope to record an enthusiastic and interesting meeting. Advices from the St. Paul region report the past season as not encouraging in point of honey yield.

* * *

A WHOPPER.—We read in the Cincinnati *Grange Bulletin* that "a great 'bee-tree,' three and a half feet in diameter, was felled the other day by R. M. Wilson, in Morgan county, Ky. The hollow trunk contained ten feet of solid honey." Either the story or the "bee-tree" is a whopper. Think of it, "ten feet of solid honey!" Well, well, "did you ever?"

* * *

Mr. Thos. H. McWebb, of London, Ont., writes: "I must now say a word for the BEE JOURNAL: I like it splendidly; I have learned more from it, since I became a subscriber, than I knew from 10 years' experience with bees. I wish it every success."

Buckwheat for Bees.

A good deal has been said for and against, as regards buckwheat being a good honey plant, and whether it paid to litter up a farm with the ineradicable stuff, for the sake of breeding a few bees. Recent experiments by prominent and extensive apiarists in this and neighboring states, satisfy us without doubt that buckwheat is valuable as a honey plant. It was found in these experimental beds that the silver hull variety has more flowers on the plants, and yields more to the acre. The honey is dark, but is preferred to all other kinds by some people. It blooms from four to six weeks after sowing.

It will do fairly well on any soil, but thrives best on a rich soil. It should be sown broadcast, three pecks to the acre. It is usually sown here late in July, but for bees it had better be sown early in June, then it will bloom about the middle of July, when bloom is usually absent, and will, we think, yield just as well; though we judge simply from observing small plants. The cultivation before sowing should be deep and thorough.

It is safe in estimating that each acre of buckwheat sown within 1½ miles of any apiary is worth $100.—*Minnesota Farmer.*

From the Greenville, Miss., Advertiser.

A Mississippi Apiary.

We have recently visited Mrs. Theobald's park, and inspected Dr. Blanton's apiary of 170 colonies of Italian bees, all handsomely housed beneath the grand forest trees in Langstroth hives. Our clever friend has given much time and thought to bee-culture, and has practically proven that an apiary in our section on a large scale is not the visionary dream of a sensationalist. We cannot now tell of all the interesting and mysterious sights, but can assure all who are at all curious that they will be amply repaid by an evening visit to the apiary. The park now, with its magnificent trees and inviting shade, is more lovely than ever, while the numerous hives of snowy whiteness suggest the idea of so many cottages in a miniature city. The workshop and storeroom of the establishment are models of neatness and convenience. Here we examined the honey and wax extractors; near by was a circular foot-power saw for making hives; then there was the bellows smoker for quieting the little workers. On looking around we noticed the artificial comb that assists and guides the bee in making perfect combs. The shipping cases are constructed with glass sides, to expose to view the beautiful comb honey. Our genial host informed us that the present season had so far been a poor one for making honey, owing to late frosts in April and a "cold snap" in May. The harvest to date has been about 1,500 lbs. of comb and 1,200 lbs. of extracted honey. The Doctor uses the movable-frame hive, with glass section boxes in the upper story, so that he can manipulate the comb and bees with as much ease as the gambler does a deck of squeezers. We were also informed that, excepting California, there is no country better adapted to bee-culture than the alluvial lands of the Yazoo delta. The Doctor is thoroughly versed in Bee-ology, and takes pride and pleasure in furnishing valuable information to all citizens interested. Thus ended a pleasant visit, and we'll B sure to go again.

* * *

THE HIVE I USE.—This is a pamphlet of 16 pages, giving a description of the hive used by Mr. G. M. Doolittle; it is re-published from the BEE JOURNAL for March, for the convenience of the many who desire to get the particulars therein given, either for reference or making the hive for their own use. It can be obtained at this office: price 5 cents.

Correspondence.

For the American Bee Journal.

Northern Michigan for Bee-Keeping.

JAMES HEDDON.

After spending nearly four weeks in the northern portion of this peninsula, hunting, fishing, and looking at land and flowers, I am almost as much as ever at a loss to determine whether it is a good location for bee-keepers. I am rather of the opinion that I prefer the southern portion of the State for bee-keeping as a specialty. I think there is no doubt of the existence of a surplus honey crop in this high latitude. There, perhaps, it would better pay the farmers to "keep a few bees" than almost anywhere else, because his time is of less value than the cultivator of hundreds of acres of more costly and tillable land.

In selecting a location for bee-keeping as well as for farming, in the northern country, great care should be taken, as many sections would have but one or two surplus-honey yielding plants. I find that the "bee disease," is there too. The advantages of the locality seem to be the great amount of wild red raspberries, and the cool nights which the basswood bloom always enjoy. What seems to be missing at present are white clover, fruit trees and whitewood, and, so far as I can learn, a fall harvest generally. I found the boneset and solidagos there in small quantities, but I presume these plants are not adapted to either the soil or climate of the northern region. I also found several kinds of autumn flowers that are indigenous to the locality, growing in sufficient quantities to produce a surplus honey crop, but as to their honey-yielding quantities I cannot decide, as there are no bees in the country where I inspected them. One of these plants, much resembles the Sweet-William in shape of flowers, and is probably the great willow-herb (epilobium), is very abundant, and if a honey-yielding blossom, would be of much value to the northern apiarist. From its "style" I have some fears of its being a honey producer.

I entertain some doubt about the climate being suitable for a fall crop, so high up as the locality named, which embraces the counties of Charlevoix and Emmet. The weather I learn is usually cool and subject to rains, which is much like the fall we are having here (Dowagiac), and our fall honey yield is a total failure, the first time in eleven years. How the long confinement of winter would affect the health of the bees in the northern latitude I cannot tell; but if the honey was all right, I guess they would winter well.

In regard to the healthfulness of that far-famed region of "Petoskey," so far as I can learn from experience and inquiry, it is quite a sanitarium for hay-fever, some cases of asthma, and malarial troubles. It also stimulates the digestive organs for a time, the same as our locality does for those who come from the east, which is no doubt caused by the change of climate.

Our bees are gathering just enough honey to keep up breeding and keep the hives heavy. This they get from golden rods and the asters, of which we have an abundance, and were the weather not so cold, we would get a nice surplus. Nearly all around us frosts have damaged the crops and flowers, but here it has done no harm, as we are protected by Lake Michigan, whose 900 feet depth of water heaves up its warmth when the sun has bid us good-evening.

Before closing I wish to diverge and say a few words about Niagara's little rival,

"PETOSKEY."

This is a new town of about 1,200 souls whose main object in life seems to be to extort exorbitant prices from all who chance to be so unfortunate as to come within their grasp—with some noble exceptions, of course. This spirit seems to be both contagious and epidemic here, and attacks persons of both sexes and all ages, from the boy who sells pebbles from the beach at 25c. each, to the land agent who wants $25.00 before he can commence to talk trade to you. All this naturally drives away the lover of honesty and justice, though he be a millionaire. While there I enjoyed the great privilege, "without money and without price," of standing in the trail where for hundreds of years the noble red man lightly capered from Mackinac to Grand Traverse, and 200 years ago Father Marquette accompanied them along this trail. Across the bay I admired the old Indian Catholic church, of seventy-five years' existence. It was the base, not a model, of architecture. Nor have I much reverence for the old fables repeated over in Latin to the ears of red nobles for the last three-quarters of a century. But, then, it was old; had been there a long time, you know.

Then I visited the old chief, or councilor, Petoskey, after whom the town was named. This old Indian cannot speak any English; believes he is 91 years old, though he looks to be about 50; has curly hair; looks like half Caucasian, and is a gentleman in looks and bearing. His intelligence is in my mind most extraordinary, as he utterly refused to join the Jesuits, and the stealing of his wife for 20 years could not induce him to yield up his individuality and manhood. I shall never forget either Petoskey.

Dowagiac, Mich., Sept. 15, 1879.

For the American Bee Journal.

Experiments with Eggs and Larvæ.

H. L. JEFFREY.

I gladly comply with your request to report my experiments with eggs and larvæ, and will give the detail of a few, and results gained up to this time. As I have previously stated through the *Exchange*, my attention was turned to experiments by accidents which happened in May and June. About the middle of May I discovered that full-grown drone larvæ would cap over and gnaw out in a moderately warm room, and that some eggs which had been laid in sections of drone comb, and had been out of the hive from Monday till Saturday night were found hatched the Monday following, and had not been in the hive 40 hours, an impossibility with a new-laid egg; and they will not hatch in less than 60 hours, and are usually 72 to 80, according to the weather. The section-box incident happened in the apiary of Mr. C. A. Stone, in June, and I saw the boxes in each change that was made with them. This gave me the first link in the chain of experiments with eggs. The first one I wrote to was J. H. Nellis, June 30; he shipped me some brood July 2, taken from the hive at 12 m., arriving at 3 p.m. July 4; one-half was put in at 6:30 p.m.; ¼ at 8 a.m. the 5th, and the rest at 7:30; the piece was 4½x2 inches, cut into 4 pieces. The 2 pieces put in the 4th—they started 7 cells, on the other 3 cells. On the one put in the morning of the 5th they started 2 cells; on the one put in the evening of the 5th they started 5 and deserted 2. The 10 cells started on the pieces put in on the 4th were torn down by the bees, but the 5 that were capped on the 2 pieces that were put in the 5th hatched; 2 were lost and 3 were mated. They were so near alike that without minute examination they could not be told apart. Three other times I sent to Mr. Nellis for brood. The second one was taken out at 9 a.m., July 23d, and received the 25th at 3:30 p.m., but being considerably bruised was not accepted by the bees. The third was taken from the hive Aug. 5th, at 2 p.m., and was received at 7:30 p.m., Aug. 7. It was put into a nucleus at 9 a.m., the 8th, and taken out the 9th for 36 hours; then put into another nucleus. One-fourth of the brood came out perfect bees. The fourth piece from Mr. Nellis was sent August 15, and received the 16th. A few cells were built, but the queens became barren on account of rainy weather when old enough to mate.

I sent to A. I. Root 3 times for brood. The first was sent the 6th, received the 8th. The nucleus was not very strong, and was robbed; then the brood was shifted, but was pulled out by the bees. The second time he sent me 2 pieces, 2x3 inches, Aug. 14; received at 3:30 p.m., Aug. 16. They were both pressed into a box made for only one, and were useless. The third sent by Mr. Root was taken from the hives at 2:30 and 2:35 p.m., Aug. 19; received at 3:30 p.m. the 22d. Both were larvæ, and were given to the bees at 6:30 p.m., but were allowed to starve after being in the hive over 48 hours, and I could discover no cause for deserting it. I never knew bees to do so, either previously or since.

The first piece sent from the AMERICAN BEE JOURNAL apiary, from an imported queen, Aug. 26, by express, received the 29th, remained in the hive unchanged till Sept. 2, and since then one egg has hatched into drone larva. The second piece you sent Sept. 10, arrived 13th, but I was away, so it was not given to the bees till the 15th; but the eggs were all pulled out on account of having perished from exposure to a dry cool atmosphere for about 36 hours, the first that have perished from that amount of exposure.

There are many more experiments, but I will not give them all in detail, only giving in full the different modes of inserting the brood. The first trouble is to give it the same scent as the hive into which it is inserted. Second, the bees will pull out both larvæ and eggs after the comb has become very cool or exposed to smoke of any kind, or if it has any animal or other foreign smell. Third, after the larvæ have consumed the fluid so as to become dry, it will be pulled out; and fourth, a heavy flow of honey will excite them to pull it out every time within 12 hours of insertion.

To insure the bees accepting brood, first give it the scent of the hive. If eggs from a choice queen are used, put a piece of wire cloth over the comb till they begin to hatch, or in any other way give it the warmth and scent of the hive, and if the larvæ has become dry moisten carefully with tepid water and honey, and when warmed let the bees have free access to it with perfect safety, and if the bees to which it is given are not more than 4 days hatched, they are better in a good flow of honey; but if honey is scarce, at least two-thirds should be over 12 days old, with hatching brood to come on as fast as the old ones die off.

Pure Italians take either eggs or larvæ better than the blacks; but hybrids are not usable in cases where brood has once become cold, though they will start the most cells and rear the strongest queens every time; but they will tear out eggs or larvæ as fast as you can give them either.

The oldest piece of eggs that a cell was started from has been about 5 days and 2 hours as near as time agrees, and the longer the eggs are out of the hive, the longer the bees are capped, queen-cells extending to the 11th day, and workers to the 24th day. Seven days keeping worker-eggs, has resulted in ¾ drones.

Queens reared from eggs or larvæ kept from the bees for any length of time, not only makes them remain in the capped cell, but makes them longer about mating and laying, and though they are rather slow layers, they keep steadily at their business, and close watching seems to make no perceptible difference with them; and I cannot see that they are in any way less valuable than other queens. Drones act considerably more sluggish when reared from larvæ or eggs kept long from the hive. From 24 to 72 hours keeping of eggs seems to make no perceptible difference; but when more than 72 hours out of the hive, they are longer hatching.

Capped worker brood has gnawed out at 58°, but were very weak and soon died. Drones emerging at the same temperature, when put into a nucleus, appeared as lively as any others, and seemed to live as long.

Queens emerging at a lower temperature than 65° to 75° never mated, and often died within 36 hours after gnawing out.

Queens that were hatched away from the bees and kept away from them, except 3 or 4 put in the cage to feed them, and kept in a dark warm place till 4 or 5 days old, and then put on a frame of hatching brood, were invariably mated the second or third day after, if it was at all, clean through the last of June, July and August, and a less proportion will be lost, than if reared in the ordinary way in a nucleus.

Woodbury, Conn., Sept. 20, 1879.

For the American Bee Journal.

Uniting and Introducing.

C. W. TAYLOR.

As the season for uniting bees is now at hand, it may not be amiss to suggest to some of the younger contributors of the JOURNAL, that if they will use a spare hive to put their united colonies in, they will find the operation to be much simplified. It places the bees all on the same footing, and I have found them much more inclined to be peaceable. If there is anything that will rouse the ire of a bee, it is, having his domicile invaded, or intruded upon, by his neighbor. I give the bees a good smoking, and allow them to fill themselves, and I keep each set of frames on its own side of the new hive, and allow the bees to mingle at their lesiure. Should entrance blocks have been used, I take one block belonging to each of the old hives and place it on the side of the new hive to which it corresponds, and clear away all the rest of the old material out of sight and scent of new colony. If the operation has been carefully conducted, there will scarcelybe a bee killed.

It is curious that the use of the Lycoperdon, or Puff-Ball which was so much in vogue some 20 years or more ago, both for uniting bees and introducing queens, has been so entirely discontinued. This disuse has arisen from the fear of foul-brood. That it could be so used as to cause foul-brood I have no doubt; but it is equally evident that there can be no foul-brood in a hive when there is no brood in a condition to be fouled and it is only in such a case that I would advise any one to experiment with it. Mr. Langstroth was the first person who called my attention to it, many years ago, and I used it quite freely for a time, and I believe I never failed in introducing a queen with it. When I used it I labored under difficulties, and I had no Bingham smoker by which the dose can be adjusted to a nicety. I had to take out half the frames from the hive to adjust an apparatus in one corner to hold a live coal or two, or a piece of rottenwood, which I covered with wire to keep the bees from getting into it. Now there is nothing of the kind needed. All that is necessary is to see that the hive contains no queen and no young unsealed brood. Then I smoke thoroughly until the bees begin to drop from the frames. As soon as they have fallen to the bottom of the hive, I dip the queen to be introduced in honey, and place her between the frames in the center of the hive. This is for the sake of any bees that may have been outside during the smoking, but the odor is so powerful and so penetrating that she will soon acquire the scent. It should be borne in mind, that there is nothing poisonous about the Lycoperdon. It is powerfully intoxicating, and in its effects can be placed somewhere between alcohol and opium, it is not exactly either, but resembles both. I know that for a little while after the operation the bees are about as cross as an old toper is after he has been indulging in a spree, and woe to the robber bee that alights near them, as they are coming out of the hive after their smoke. There are whole nations in Asia who make use of the Lycoperdon for its intoxicating effects. They smoke it in their pipes mixed with tobacco, and also manufacture a drink from it. It is also claimed for it, that when taken at a proper age and sliced and fried in butter that it makes a dish superior to mushrooms. I think that at this season of the year, after the queen has done laying and when robber bees are plenty and always on the lookout, it will be found to be very valuable, as it can be used from now until mid-winter. I never was so simple as to use the article in warm weather when the hive was crowded with young brood, and I do not suppose that any one who deserves the name of bee-keeper will do so either; but keep it in its place, and like alcohol and opium, it will be found that it was not made in vain.

I made an addition to my apiary last spring and find that I have now on hand some 25 or 30 queens that are neither superannuated or impure and will have to be replaced, and I intend to use the Lycoperdon as long as my supply holds out as I find it fills my bill exactly.

Oakford, Pa., Sept. 17, 1879.

For the American Bee Journal.

Apiarian, or Apiarist?

N. CAMERON.

We are accused in the last Journal, of "riding a little hobby" on account of using a good adjective for a noun. This is nothing uncommon; there is hardly a page in the dictionary but one or more nouns and adjectives may be found with the same orthography. We are told that the difference of opinion was settled in vol. 13, p, 165, A. B. J. If the opinion of one man can settle a question of this character, then it is settled. But, alas! our best laid schemes "gang aft aglee." The old readers of the Journal will remember that this same question was settled by the Journal, vol. 7, p. 111, the other way. Now, who can tell but the Journal may again turn about on this question. While we accord to everybody the right to use "apiarian" only as an adjective, we at the same time claim the right, with many other "distinguished apiarians," to use it as a noun. Many, if not a majority of the leading writers on apiculture, both in this country and in Europe, use this word as a noun. It is a change that meets with favor from progressive men and we are for progress in the science of words as well as apiculture. All we asked was fairness. We doubt if there is another bee paper published in the world, that will not allow its correspondents to use in its columns "apiarian" as a noun. The Journal, by substituting "apiarist" for its correspondents whenever they use "apiarian" as a noun, and allowing others to use "apiarist" as an adjective is evidence to my mind that the Journal is somewhat prejudiced on this word, and is the one that is riding the hobby instead of myself; and a miserable, old, springhalt and sprained hobby of the Kirby age it is, without any pedigree, or, as the boy said, "of doubtful antecedents," and so exceedingly jealous of the little hobby that we ride, that we are excluded from competition in the race for popular favor. The smooth, well-built and improved horse is put out of sight, while the ungainly, rawboned beast of a primeval age is exhibited, labelled, "This or nothing!" Lexicographers do not coin words, neither is the word "apiarist" derived form the Latin word apiary. Then, wherein lies its particular claim to our favor? Ugly from every point of view, and without legitimate parentage, we cannot see that we are under any particular obligations to make a pet of it. Therefore, Mr. Editor, allow us to say that great "apiarians" will differ, and we see no reason why all honest differences should not be mutually respected.

Lawrence, Kansas, Aug. 18, 1879.

[In nearly every printing office in the country where MMS. constitute the majority of copy given out to the compositor, it has been found necessary to adopt a standard authority for his guidance, not only in the spelling of words, but in the substitution frequently of grammatical language for that which he finds written; and in the matter of punctuation, manuscripts are seldom found correct. The Journal is no exception to the above-mentioned custom. Our compositors would as soon give Mr. Cameron's "alass," for alas; or "primevil," for primeval; or "anteceedents," for antecedents; or his "prejudice," where prejudiced was evidently intended, etc. We claim the same right to substitute common (not universal) usage in the application of the noun "apiarist," that we do in the application of recognized usage in punctuation, and more especially are we justified in doing so, when supported by the only authorities which we can find committed upon the subject, viz: Kirby, Webster, Worcester and Zell. Nor does his "horse" tirade detract anything from the respectability of the authorities cited. That our honored predecessor, in vol. vii., p. 111, was of opinion that the adjective should be used as a noun, does not make it binding upon the present editor, or any of his successors, to adhere to an error when convinced of its existence. Kirby, Webster, Worcester and Zell may be wrong, but until so proven, mere individual opinion will not change custom. Though the word may not be of "legitimate parentage," who can gainsay the respectability of its sponsors?—Ed.]

For the American Bee Journal

Apiarian, or Apiarist?

W. O. CARPENTER.

I am inclined to think friend Cameron is correct in his mode of pronunciation apiarian. The word is derived from the Latin apiarius (the a being long) " one who attends to the culture of bees." Apiarium being a bee hive. I think apiarist destroys the euphony of the word, which after all is our best guide for all such words where there is no settled rule or authority ; it seems to chime in with such words as grammarian, sectarian, vegetarian, valetudinarian apiarian, &c. You carry your word as far as grammari—sectari—valetudinari—apiari—before you affix your final monosyllable, which plainly by the rules of euphony indicates an; apiari-an not apiari-ist, much less taking a still greater liberty by curtailing the final i and calling it apiar-ist. words which terminate in y like geology, mineralogy, botany, toxicology, &c., evidently indicates changing the y into ist as geology, geologist, &c., but it appears to me to be contrary to the laws of euphony to say grammarist, apiarist, as it would be to distort geologist into geologian or mineralogian, &c. There are some few other words such as microscopist, scientist, dentist, herbalist, &c., where we can only be guided by the natural laws of euphony in their pronunciation.

Such a word as apiculturist would satisfy all parties. I have searched three or four English dictionaries (it may be in Webster) but I cannot find either apiarian, apiarist or apiculturist in any of them, it is a new word manufactured to suit the times.

[Euphony, we fear, would be subject to many constructions, if adopted as a rule to arbitrarily settle disputed points in language. There are exceptions to many general rules, and some to the examples given above—i. e., "sectarist," from sectary ; " geologian," from geology, though Webster pronounces both rare. But who has cast a doubt upon the correctness of both theologist and theologian? Again, we have floricultural, floriculturist, floral and florist ; and the law of euphony that allows the use of apiculturist will justify that of apiarist. All the authorities that give the words at all, give the preference to " apiarist " as the noun. See Webster, Worcester, Zell, etc.—Ed.]

For the American Bee Journal.

" Linn."

JOHN ALLEN.

In the Bee Journal for August, p. 373, Mr. G. M. Porter asks what authority there is for the use of the word " linn" instead of " linden," and says, further, that he cannot find " linn" in any dictionary, botany or bee manual that he has seen.

I have seen the word " linn" in the different bee-periodicals, and have heard it used by people in the West as the common name for the linden or basswood. Indeed, we have here in Iowa a " Linn" county. In looking over Gray's " Manual of Botany," at the close of what he had to say about the genus *Tilia*, which includes the American and European linden, I found this note : " This tree (the *Lin*) gave the family name to Linnæus." On looking at the article Linnæus, in the eighth edition of the " Encyclopædia Britannica," I found the same statement in somewhat fuller form.

In Arthur Bryant's " Forest Trees for Shelter, Ornament, and Profit," page 151, he says : " *Tilia Americana*—Lynn, Linden, Basswood." This book is published by Henry T. Williams, of New York. Halliwell's "Dictionary of Archaic and Provincial Words," gives "linn-tree, a lime-tree." Indeed, I find that in America the linn is not unfrequently called the lime.

In the fifth volume of " English and Scottish Ballads," edited by Prof. Childs, and published by Little & Brown, Boston, the glossary gives " lynde, lyne," and for the meaning, linden, lime, tree in general.

Since finding this word in the glossary to the ballads, there have come into my mind faint memories of not unfrequently meeting the word "linne, lynn, lynne," in my reading among those old ballads, unique and beautiful, that have drifted down to us from the days of " auld lang syne," but I cannot to-day refer definitely to any verse in which the word is used.

Mr. Porter appreciates " The Blessed Bees" so kindly, that I regret to have him think the use of the word " linn" a blemish. I think he will see from the above that it was not used without good authority. To my ear the words "Linn" and "Linnswick" have a more antique and poetic sound than "Linden" and "Lindenwick."

Iowa City, Iowa, Sept. 22, 1879.

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For the American Bee Journal.

Honey in England.

H. K. & F. B. THURBER & CO.

Now that the honey harvests are about closing and the minds of producers naturally enough turn to the problem of how and where it will be best to sell their crops, we thought a few lines from us would be of seasonable interest to them particularly if we touch upon the question of a foreign outlet.

As every one now pretty generally understands, the season in the United Kingdom has been singularly disastrous for all kinds of crops, and so entirely fatal has the cold wet rains been to the honey yield, that not enough honey could be collected to make a respectable showing at any of the fairs this fall. In France the honey crop is also short, but in the southern part of the Continent as also in the West Indies and South America, from whence large shipments are made to this country, an average yield is calculated upon. Prior to our general introduction of American honey upon this side, the London, Antwerp, Liverpool and Hamburg markets were supplied from Chili, Jamaica and Peru, while connoisseurs in England were supplied from Narbonne, in France. Last year, however, the overflowing crop of America fonnd its way direct from San Francisco and New York to the English and German ports in such quantities that the West India and South American honey has not met with its usual ready sale. When we first saw as much as 2,500 barrels of Chilian honey advertised for sale in Liverpool, we were surprised, and sought out the parcel with a view of obtaining all the information we could upon the manner of its sale. In Liverpool, as in all other European ports, the docks are regarded as their greatest and most necessary public improvements, and to defray the expense of keeping them in order every parcel of goods unloaded is taxed for "dock and town dues" a certain sum per ton. Along the sides of these docks are immense warehouses into which the vessels discharge their cargoes. There the honey is submitted to another tax; they charge for instance a six-pence (12 cents) per barrel for receiving honey, and a six-pence for delivering each barrel into the cart or wagon of the buyer, and one-pence (2 cents) per barrel a week for all the time it remains unsold. When we reached the dock where the 2,500 barrels were being discharged, we found an old man drawing a little sample from each of the barrels, after examing which he would mark the barrel it was drawn from either "X," which denoted white color, fine flavor and heavy body, like basswood or white sage; "1" which designated a colored honey about like white clover (we would hardly have discriminated between these two grades, but he did); "2" indicated a grade the quality of which was about like golden rod, "3" was like our buckwheat, and "4" resembles in color and body Louisiana honey. Each of these marks were piled up separately and those assorted samples were sent to the broker or auctioneer, who advertised and sold them in one of the commercial salesrooms in Liverpool with the following result:

Pile	x	40s.	⅌	112 lbs;	about	8½c.	⅌ lb.
"	1	38s.	"	"	"	8c.	"
"	2	35s.	"	"	"	7½.	"
"	3	30s.	"	"	"	6½.	"
"	4	26s.	"	"	"	5½.	"

We have since found this system prevalent in all the European markets, and the prices named have averaged just about the same for the last ten months. The market is rather bare and we anticipate higher prices this fall. The cost of freight for honey in barrels and square 5 gallon tins from New York to London, including dock and landing charges, equals about half a cent per pound; that is, about one cent per pound less than the freight is from Cherry Valley to New York City. Freight direct from San Francisco to London is 1½ to 1¾ cents less per pound than from San Francisco to New York; while the cost per pound from New Orleans to London is 50 per cent. cheaper than from New Orleans to New York or Chicago. Eight and a half cents per pound in London will net the California honey producer more than 10½c. per pound in New York would.

Extracted honey is liked much better than strained, because it is free from dead bees and filth, and this preference makes American honey better liked. While candied honey is sold in pots and jars, the packers prefer it liquid when they buy it, because they can pour it into the pots and jars and let it congeal there, They never remelt candied honey, because, as they truthfully say, after candied honey has been heated fermentation is more likely to occur. The freight and expense of transporting comb honey from New York to our store in London is about 1½ to 2 cents per pound. According to the "weights and measure act" of this country, we are obliged either to specify exactly the *net* weight of honey each box contains, or sell them by the dozen boxes; and as "a box of honey" is a box of honey to most buyers on this side, a 30-pound crate brings no more than a 25-pound one. So we urge for this market a uniform size box be used.

The lowest price at which we have sold sound light honey on this side at has been 24 shillings, less 25 per cent., which is about 16 cents per pound gross weight. The highest, 27 shillings less 10 per cent. Buckwheat honey in the comb is not in request at any price. The expense attending the sale and distribution of comb honey after its arrival on this side, will always be an impediment in its way; still there will no doubt be a trade in fancy marks at remunerative prices.

Since we embarked in the honey business, we have had many interesting conversations with the most intellectual honey producers in America regarding the comparative cost of producing box or extracted honey. The information thus gleaned, when considered in the light of our observations here in Europe, and the difficulties attending the safe distribution of honey in the comb, prompts us to warmly reccommend the great masses of honey producers to work their apiaries for the exclusive production of extracted honey. If the honey industry in America continues to increase at the same ratio it has the past 10 or 15 years, it will be indispensably necessary to seek a market here in London, the great barn for all the earth's harvests. We earnestly hope, for the sake of the best interests of the bee-keeping community, you will take time by the forelock and work up a greater interest in the production of extracted honey. Extracted white sage honey and basswood honey will always bring fancy prices, on this market.

We will always be most happy to reply to any inquiries your readers may wish to make regarding the European markets.

London, England, Sept. 7, 1879.

Bee Profits.

A hive of bees can, with ordinary management, be doubled every year for several years. Let us figure a little and see what the result will be, say for seven years. In the fall of the seventh year we have 64 colonies; 20 pounds of honey to the hive every year will be a low average for that length of time; 15 cents per pound is not high for honey; we have 2,540 pounds for seven years; that at 15 cents, makes $381, if I have made no mistake. The 64 colonies, at the low rate of $7 per colony, makes $548; this added to the value of the honey gives the snug sum of $820. This is no big thing but it is enough to pay for all the trouble it costs. Some will say it looks well enough on paper, but not one man in fifty can do that well. I believe it can be done every time with proper care. I would like to hear from some of our bee keepers on the subject. If they think that I am extravagant in the figures given above, let them say so.—*Cor. Indiana Farmer.*

For the American Bee Journal.

Notes from Georgia.

A. F. MOON.

After a long drouth, about the 20th of July rain began to fall, which caused the flowers to come forth in endless profusion, emitting their usual fragrance. The little bees, which for some time had been compelled to suspend work on account of there being no honey to be found, were all awake, and every bee seemed eager to see who would get the most of it. This resulted in rearing much brood at an unusual season of the year, producing, as it did, heavy swarms coming off the 1st of September, and we have had several fine swarms since. With the aid of a few frames of brood and honey, we have made good colonies of them. Some colonies have gathered more surplus since the 1st of August than before. Bees are, as a general thing, in fine condition for wintering, and are still gathering some.

I have a colony at work that has about completed a *piece* of honey one cubic foot. O! how I wish I could had it ready for you to present to our friends across the water; but, then, it would have been so heavy for an editor to be carrying along. This little casket, when completed, will weigh over 100 lbs. Well, we can cause bees to make it 2 feet, on the same plan. But I must stop, Mr. Editor, fearing there will be many "doubting Thomases" now. There is nothing strange, when we understand how it is done, and have a disposition to do so.

Success to the National Bee-Keepers' Convention! Long may it live; I shall never forget that I penned the first line to call it into existence.

Rome, Ga., Sept. 15, 1879.

For the American Bee Journal.

Duplicating Queens.

J. ANDERSON.

In the last BEE JOURNAL, I have just read Mr. A. F. Moon's challenge to bee-keepers regarding a queen that duplicates herself. It is not my purpose to send you—particularly at this late season of the year—a queen such as he wants; but, in case that his very strong statements should lead any of the readers of your most excellent JOURNAL to conclude that there are no queens in existence that invariably duplicate themselves, permit me to state that I have such a queen now in my possession. By this I mean that I have a queen, the mother of a large number of queens, now in my apiary which invariably duplicates herself. I cannot now state the number of queens I have from her, but this I say, that I reared last summer far more from her than Mr. Moon wants in order to establish the existence of such a queen; and that I have not yet met one dark queen from her—not one of all I reared from her. All are as bright as herself, and she is a highly colored queen. Some of her daughters are a little brighter than the mother; but will probably be like her when as old as she is. Perhaps Mr. Moon may regard this as a confirmation of his theory. Well, of course, if the daughter is a little brighter than the mother, then they are not alike; true, but if Mr. Moon takes this ground, then all I have to say is, that the discussion is regarding dark queens produced by bright and pure mothers. Generally no fault is found with queens for being too bright. I have no motive in making the above statement, but simply to guard some of your readers against an impression which I am confident is not correct; indeed, I am as satisfied of its incorrectness, as Mr. Moon can be of the opposite. I have only one queen just now of which I can speak so positive. There may be others in my apiary of which the same might be said were they tested. The queen alluded to is not an imported one. I received an imported queen this season, but her queen-daughters vary greatly in color—some of them very bright, and others very dark—so dark that but few would regard them as pure. Why should any one conclude that pure queens should not duplicate themselves? Black ones do it. Fowls also, particularly wild fowls, duplicate themselves.

But, Mr. Editor, I flatter myself with the thought that I have established one thing connected with the rearing of queens, namely: that the heat of the hive and of the season has to do with color of queens, for you cannot raise as bright queens in the spring and fall as in mid-summer; nor will a queen reared in a weak colony be at all equal to one reared in a strong colony.

Tiverton, Ont., Sept. 3, 1879.

For the American Bee Journal.

Doolittle's Honey Report.

G. M. DOOLITTLE.

We hope that the numerous readers of the AMERICAN BEE JOURNAL have not expected a large report from us this season, for if they have they will be mistaken. In no calling in life is a continuous success expected of great proportions, but if as a whole, we can keep gaining steadily, we should be satisfied, or, at least, we ought to be.

We shared the fate of many others last winter and spring in losing quite a number of colonies of bees, and many more were so weak as to compel us to unite them to give us any chance of success. This, with the sale of a few colonies which we promised during the winter, left us with only 60 to commence the season with. The season was rather backward and bees did not obtain plenty of pollen till about the first of May, while gathering honey was out of the question till nearly June first, at which time apple blossoms opened. Bees obtained plenty from this source to carry them over the period of scarcity which we always have between apple and white clover bloom.

White clover opened June 15th, and only yielded honey enough to keep the bees rearing brood nicely while in blossom. Basswood opened about July 12th, and yielded a steady flow of honey, although the yield at no time was great, till August first. Buckwheat gave but little or no honey, so the bees hardly obtained a living from that source. So, taking it altogether, the season has been unfavorable for surplus honey. We have, however, obtained 2,909 lbs. of box honey and 572 lbs. of extracted, making 3,481 lbs. in all, or 58 lbs. per colony as an average yield. This is the lightest yield we have had during 7 years, with the exception of 1876, when our yield per colony was but 50 lbs. We shall go into winter quarters with 100 colonies.

Perhaps it may be interesting to the readers of the A. B. J., to know how our report stands for the past 7 years, for it is only by a number of years' experience in any business that a true result as regards profit or loss can be obtained. Our average yield for each colony in the spring of 1873, was 80 lbs.; in 1874, a fraction of a pound less than 100; in 1875, a little over 106; in 1876, just 50; in 1877, a little less than 167; in 1878, 71; and in 1879, the present season, 58 lbs., making an average yield of a little over 90 lbs. per colony for the term of 7 years. By looking over our diary we ascertain that our honey has sold at an average price of 21¼ cents per pound, the highest price being obtained (28½ c.) in 1874, and the lowest (10¾ c.) in 1878.

From past experience, we believe a thorough, practical, workingman can do all the work required to be done with 100 colonies of bees, and from the above he should obtain for an average term of years, 9,000 lbs. of honey annually, which at 21¼ c. per lb. would bring him a yearly income of $1,912.50. Although the average yield per colony for 7 years to come may be increased, yet the price during that time is likely to be lower, as the high prices caused by the war are passed, and unless we have some unforeseen event to raise the price of honey, it will probably never bring 28c. per pound again. Still, with a much lower price for honey than that averaged for the last 7 years, bee-keeping ranks favorably with almost any other pursuit.

Borodino, N. Y., September, 1879.

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For the American Bee Journal.

Experiments with Foul Brood, Etc.

E. P. ABBE.

I send you to-day a bee destroyer Asilus, I suppose, that I caught in the act. I presume it is the same species that you have spoken of as a common pest in Missouri, and I send it only as a specimen from a widely separated locality.

A few years ago my apiary was seized with foul brood, nearly every hive (I had at that time about a dozen) becoming more or less affected; and I passed most of my lesiure time during that summer in experiments with various methods and remedies for its cure. I found as I supposed that it was controlable with Sulphite of Soda. I say controlable, instead of curable, for unless every particle of the zoosperms was washed out or reached by the Sulphite, the disease was sure to return; and as they were frequently sealed up with the stored honey, it only remained for the uncapping to start the disease afresh.

I was at the time quite enthusiastic and certain that I had discovered a quick and ready method of curing foul brood; but when it began to reappear although slowly, and I found that the same tedious process with the atomizer must be gone over with again, and especially as all the pleasure of an apiary was gone when it had to be watched like a suspicious character, and there could be no interchange of combs or bees between the colonies, I resolved to get rid of the trouble and annoyance in the radical way, viz: confining the bees in an empty hive until they had consumed all honey in their sacks (or about three days), then giving them their honey, which had been scalded and strained. In this way I soon had my apiary once more in a healthy state.

Soon after these experiments, Salicylic acid came before the public as a disinfectant and anti-putrescent, and I regretted that I did not have a case of foul brood to try its powers. The next year, however, I had a small hive in which I found some half dozen cells of unmistakable foul brood. I carefully sprayed the hive, and washed out the diseased cells with a strong solution of Salicytate of Soda, and the trouble permanently disappeared.

This summer, in July, I found one of my colonies badly diseased, and as it was one of five that I had freely exchanged combs or given from the same old combs that were stored together, I immediately opened the others and found all more or less affected. One, however, had only a few dead larvæ in one comb, and these I pruned out, and gave no other treatment. The trouble has not returned in it. I have always thought that if the disease can be detected sufficiently early and is pruned away before the attempt to remove it, the colony is safe.

One of the others I reserved for Salicylic acid treatment experimentally, and the others were treated on the Quinby plan. (See Mr. Corey's interesting article in July number.) I however, did not confine the bees after they were put in empty hives, but let them fly freely on their stands. I put them in empty box-hives without frames for four days, carefully destroying any comb they may have made. It was at the season when forage was getting scarce, and they did not make four square inches of comb altogether. After four days I gave them their permanent hives in various conditions, viz: One had only empty frames, one had empty combs, one had combs with brood in all stages, and one with a frame of comb with eggs one or two days old. Here, certainly, were conditions favorable for the development of the disease, if the bees retained any virus in their sacks or about their bodies. The old combs were melted for wax, and the honey scalded and fed back to the several colonies, which stimulated them so greatly that they grew rapidly strong, and to-day (two months) are healthy, strong, and in every respect perfectly satisfactory.

The treatment with Salicytate of soda was not sucessful. When I used it five or six years ago I was greatly pleased with the result; but as there were only a few cells diseased then, the result was the same as pruning, only not so safe. The disease had not affected the hive outside of the cells containing the virus. In the hive selected for the Salicylic trial, the treatment was made as thorough as possible. Every cell which showed any signs of disease was uncapped and washed out, and nearly every healthy cell was opened in the search for the disease. The bees and combs were thoroughly sprayed, and the frames with adhering bees were put in a clean hive and honey-board. In three weeks I again opened the hive, and found it still thoroughly taken possession of by foul brood; that I resolved to treat radically as I did the others. The only difference was in the mode of separating the bees from the combs. As the honey supply had failed there was danger of robbing and diffusion of the disease among my thirty healthy colonies if I opened the hive for any length of time to brush the bees from the combs into an empty hive. I therefore carried the hive late in the day in the bee house (winter quarters), and after closing the entrance of the hive, put the bees asleep with puff-ball smoke. However distressing it may have been to the bees, for the operator it was a delightful way of handling them—no filling up of sacks with poisoned honey, no intruders from the outside; all the bees perfectly motionless and as easily brushed into an empty hive as so many dead flies. In twenty minutes they are again conscious, lively and amiable.

The most practical and interesting question to me is, how did the disease originate? After being free from it for some five years, with the combs and hives in constant use without a trace of the trouble, it is not reasonable to suppose that it originated from any germs which had laid dormant during that time.

I can only account for it by supposing that some of the combs which I stored up last fall after uniting, had become foul from fermentation of the unsealed honey and from the droppings and urine of mice which had made their nest in them.

I agree entirely with Mr. J. Corey in his views, but wished to make a fair trial of Salicylic acid for my own satisfaction.

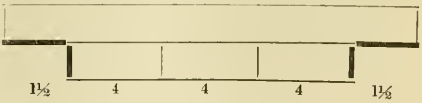
New Bedford, Sept. 7, 1879.

For the American Bee Journal.

Queen-Introducing Cage.

J. E. MOORE.

The "Old Reliable" A. B. J. for September came to-hand August 30th, and I was very favorably impressed with your illustration and ideas in regard to a queen-introducing cage, but think the construction of the cage objectionable. A strip 16 inches long by ⅜ wide covers up too much brood. I send you a shipping and introducing cage by mail, which I have made of such stuff as we had on hand, so size is not the same as given in the JOURNAL. To make it the same size as yours, take a strip of tin 15x¾ inches, and notch the ends 1½ inches long by ⅜ deep, 5½ inches from both ends on same side; take the strip to a tin-shop, and get turned over ⅜ at right angle whole length of strip; fasten a block 4 inches square to the bench and bend tin around, this gives three sides of the cage; turn narrow strips, making the entrance, which is closed by a slide 4x½ inch. Now fasten the slide so as to hold it square, and lay it on the bench flaps up and lay on a piece of wire cloth cut so as to lap the flaps ⅜ of an inch, and while holding it in place with one hand, turn the lap around the edge of the tin; now turn the cage over on the bench and hammer the wire-cloth down, and the cage is made. It is held in place by finishing nails put through the wire-cloth inside of the edge of the cage at the corners; they also hold the slide for the entrance in place. This will also make a good shipping cage, by tacking it to a block furnished with sugar and water. In shipping, I should use a block ⅞ thick, and make receptacles for food and water by boring nearly through the block say 1 inch in diameter. For water supply, I should cut a piece of sponge to fill one hole, saturate with water, and cover with a piece of perforated tin. In using the one I send,



you will need 1¼ inch finishing nails to fasten to the comb.

P. S.—I have made another for trial, and placed a valuable queen under it in the hive since writing the above, and should prefer cutting the strips of tin 1 inch, same as the sample; this makes the cage ½ inch deep so that where ridges occur on the comb in the honey, it can be pressed in ⅛ of an inch, so the bees will not cut under the cage.

Byron, N. Y., Sept. 1, 1879.

[The objection urged by friend Moore against the cage illustrated in September No. of JOURNAL is perhaps well taken; yet, in comparison with former methods of introducing, in cages, the loss in brood is much more than compensated in the eggs deposited by the queen while in confinement on the comb's surface, without taking into the reckoning the perfect immunity of the queen from danger. In every hive, at least one comb can be found with a level surface. One recommendation for the cage illustrated is the simplicity of manufacture—all the material required being a small piece of wire-cloth, a few small nails and tacks, and four little square sticks, while a pocket-knife and tack-hammer constitutes the "kit of tools" required. We have never had a queen released from one of these cages to be destroyed by the bees, but feeling confident of success in the introduction, have sometimes neglected for several days to open the hive and when finally opened, have invariably found the queen released and performing her maternal functions. Where there is much interchanging of queens to be done, and convenient to a tin-shop, we would recommend a round surface-cage, made by using a strip of tin ⅝ of an inch wide wide, and long enough to form a circle say 2 inches in diameter; then cover with wire-cloth, soldering it at the edge to the tin. These can be made at any tin-shop for about 50 to 60 cents per dozen, and are somewhat preferable to the square cage, in that they do not necessitate selecting a comb with level surface, as the queen can be placed on the surface of any with 2 or 3 cells of capped brood, and 2 or 3 each with honey and empty, then press on your cage, giving it a turn half around, and the work is done. When the bees run over and about the cage, in a natural attitude, it is safe to release the queen by pushing a quill, nail or small peg through the comb from the opposite side, or lift the cage from over the queen; but if the bees are gathered on the surface of the cage, with their abdomens downward bent, as if prepared or trying to sting, better leave her caged a few hours or a day longer.—ED.]

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For the American Bee Journal.

Apiculture in Florida—No. 3.

R. H. M'INTYRE.

In my last, June 16th, I did not think the prospect at all favorable for a good year, but it has turned out to be a very good one. Our bees swarmed very little in the spring, but did all through the month of July. The low palmetto bloom was very rich: it came in June and gave them a strong start. Then the cabbage palmetto came in July and was the richest it has been in this vicinity for a number of years. Both of the palmettoes make beautiful white honey. The cabbage fully equal to white clover in appearance, but has not a decided flavor, and is a little thinner than clover. Our honey here never granulates or gets hard; I presume it would in the North in cold weather. The cabbage bloom lasted fully 6 weeks this year. It is now over, and with it ends our honey season, although there is something the bees can get almost every month in the year.

There is no month that queens do not lay. If we cannot find eggs at any time, we consider the colony queenless and take the proper steps to furnish them with a queen.

My cheap bee house is a success. I now have the posts in water, so as to keep them clear from ants; a large red ant. If they make a raid on a hive they are sure to win in the end, for it seems as if their forces were inexhaustable; no matter how many are killed there are more to fill their places. They do not kill the bees, but tear their wings so they cannot fly. They soon have most of the colony out on the ground trying to fly, while they devour the honey and young bees. They do not often attack a strong colony, but I have known them to, and they are sure to destroy the bees if left to themselves. Our home market for honey is very small. The only way we can ship our honey to market is to extract it. At present prices the cost of transportation almost eats it all up, leaving very little for the man who did the work and got the stings.

I believe bees are crosser here than anywhere else. I have some hybrids, and no cold-draft smoker does them; it wants direct action, and strong at that. But they beat anything in my apiary for honey, and a moth miller or robber has no business fooling around their entrance. But if there are any sweets to be stolen they are sure to be there. I think bees rob worse here than North. There is hardly ever a time when they will not trouble any one that is extracting out of doors, at least that has been my experience here.

I am much interested in the reports of the different Bee-Keepers' Conventions which are given in your valuable JOURNAL. I hope we shall have a Florida Bee-Keepers' Association, with smaller societies in each county, before many years. So long as we do not have them ourselves, I advise every bee-keeper in the State to subscribe for the AMERICAN BEE JOURNAL, where he can find all of the doings of the various Associations, as well as a notice of everything that is useful and necessary in the apiary for the comfort of the bee-keeper or the bees themselves.

Daytona, Fla., Aug. 16, 1879.

For the American Bee Journal.

In Memoriam.

DIED—Suddenly at his home in Appleton, Outagamie Co., Wis., on Tuesday, July 29, 1879, at 7 o'clock p. m., Alexander H. Hart, aged 74 years, 11 months and 22 days; a veteran bee-keeper of the Northwest.

His health had been failing for more than two years past. A very severe and prolonged attack of neuralgia in the summer and fall of 1877, brought on by excessive labor in the apiary during the abundant honey harvest of that year, and from which he never fully recovered, left him in feeble condition. Though he attended to all the interest of bee-culture with unabated zeal, he has not since been able to endure exposure or fatigue as in former years. For a few days previous to his death he was more feeble than usual, suffering extremely at times, although able to walk about his room. The day on which he died he was very much better, was about the house during the day, and at evening, as was his custom, went to the bee-yard where he was found a few minutes after lying on the ground in an unconscious state, in which he immediately expired.

Mr. Hart was born in Amsterdam, Montgomery Co., N. Y. He was left an orphan in early childhood, dependent entirely upon his own exertions for support and education. His boyhood and early manhood was passed in his native State, where he was known as an excellent mechanic and a most skillful maker of iron implements; but of late years he has lived on a farm and devoted much time to bee-culture in which he took great delight. In 1835 he moved with his family to Ohio, where he became identified with the anti-slavery society, in which he was an active an zealous worker, acquainted personally or by reputation with many of the prominent leaders of that movement. In 1848 he came to Wisconsin, and in 1853 was elected member of the Assembly of this State. For 13 years was a resident of Stockbridge, Calumet county; while there he was a long time superintendent of the Congregational Sunday School, and a communicant of that church more than 50 years. Nine years since he came to Appleton where he formed a large circle of appreciative friends.

Mr. Hart was a man of large and varied information. He gave much time to study, and received several patents on important inventions. He read many books; very few laboring men own a library as extensive as his. In former years he read and purchased many medical works, and could have practiced medicine creditably to himself and acceptably to others, had he wished to do so. In sickness he was the counselor of his neighbors, and in all matters pertaining to bee-culture his opinion and teaching was considered standard authority.

His sympathies were always with the poor and oppressed; no wronged or injured person, especially if a child, ever escaped his observation or asked his aid in vain. Always progressive, he was interested in every reform; was ever active in the temperance cause, and at the time of his death was a member of the order of the Temple af Honor. The life of Mr. Hart from infancy to old age was crowded with disaster and affliction, but his genial nature was never soured by trouble or sorrow, He was remarkably cheerful and social—a pleasant word for all and wonderfully kind to children, by whom he was familiarly known as "Uncle Abe."

Three times during his eventful life

he was left with a family of motherless children, two of whom died in infancy and three in womanhood—the last of them, Mrs. Pameala Tanner, with her two little ones perished in the "Peshtigo Fire." He leaves a wife and nine surviving children, all of whom were present at his burial except Mrs. Ada Ballou, of San Francisco.

By his death his family have lost a kind husband, an indulgent father, a wise counselor, and the community a valued citizen and respected friend.

Extracted Honey.

REV. O. CLUTE.

The market reports in the large city dailies give quotations of "strained honey." All know that strained honey was formerly pressed out of old black combs that were taken from the box-hives after the bees had been brimstoned. To any one who ever saw honey strained in the old way, its association with the juices of half-grown bees is by no means appetizing. At the best it usually has a dark color and a rank flavor of bee-bread. As to its production, all intelligent bee-keepers will agree in the advice given by Punch to couples about to get married—"Don't."

A serious evil which strained honey has created is the tendency, among nearly all, to put all liquid honey in the class with it, and so to do great injustice to "extracted honey." Extracted honey is honey in its purest shape, and to class it with the pollen-spiced, maggot-flavored strained honey, is like putting the nectar of the Olympian gods on a par with forty-rod whisky. All bee-keepers should endeavor to have the real character of strained and extracted honey fully known, and should labor to convince the public that extracted honey is in the purest and most cleanly condition. Like all new articles of food, it will take time to make its merits widely known. When people become acquainted with its real merits and its cheapness, there is no doubt but it will be in large demand.

But this wide popularity can be obtained and maintained only by producing an excellent article. To this end bee-keepers must strenuously insist upon two things: that the honey shall be sealed or just ready to be sealed before extracting, and that it shall have no suspicion of adulteration.

The nectar gathered by bees from flowers cannot be called honey until the evaporating or ripening process has so far gone on that the bees are beginning to seal the cells. Some bee-keepers advocate extracting as fast as the honey is gathered. It is quite clear, however, that honey so extracted lacks very much in the delicious flavor that belongs to a good article. If we are to build up the market for extracted honey, we can do so only by giving a genuine honey, and not the crude, watery nectar as is first gathered from the flowers.

The ease with which extracted honey can be adulterated, and the large profits derived from the cheat, have in a few cases led to such dishonest practices as seriously to injure the bee-keeping business. There are probably only a few individuals and a few firms that have been guilty of this fraud, but their guilt is a damage to every bee-keeper throughout the country, for in the general ignorance as to extracted honey, whatever tends to cast suspicion on it, decreases the demand for it and so lowers the price. Hence there has been need on the part of bee-keepers for agitation against the practices of unscrupulous men who are selling glucose or grape sugar for honey. We may hope that the conviction and punishment of a few of these scoundrels will effectually end the fraud. In self-protection, the various local and State organizations of bee-keepers, and the National Association, should employ experts to examine all suspected honey, and should prosecute vigorously every person against whom good evidence of adulteration can be found.

Comb honey has such intrinsic qualities of excellence and beauty that it will always be in demand. A pure article of well-ripened extracted honey also has most excellent qualities which, when known, will commend it to wide favor and secure for it a large consumption.

Johnson County, Iowa.

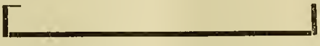
For the American Bee Journal.

New Mode of Transferring, &c.

J. D. ENOS.

The "Old Reliable" comes regularly and always some new item of interest. I would like to give your readers an idea of fixing the comb in frames that I have never seen in print on your side of the Rocky Mountains.

I fasten the comb with wires which secure them and is more easily adjusted than any way that I have ever seen or heard of; would like to have you try it and if you find it speedy and practicable to give it to your readers and bee-men, or women in particular. After having fitted the combs to the frames, or rather before, take the frame that is to hold the combs, get some No. 14 annealed wire bend ¼ inch at right angles, then bend at right angles the width of the top-bar from that, then measure from the top of top-bar to bottom of bottom-bar and bend parallel with the last bend and cut about ¾ inch from the angle, leaving an end ¾ inch long. Now to use it, fit the comb as usual to the frame, take an empty frame and fill one side with as many wires as are necessary, by fitting it on the top-bar first and pulling it down so that the ¾ inch end slips under the bottom-bar (I generally have two light boards the size of frame or very little larger, the comb resting on one of them), then press the frame down over the comb, lay a light piece of board over the wires, take comb and frame up between the two pieces of board, turn them over so that the bottom side is uppermost; slip more wires on the now upper side, and the job is done. I always have a lot of wires on hand to fit the frames and they can be used again and again. The shape of the wires finished is thus:



If the long side is made a little bowing they will always spring against the comb to keep it in place, and the top can be made to fit so that it will never come off by accident. The wire does not interfere with the bees so much as strings or sticks; the bees cannot bite them and the bottom-bar cannot sag; they can be removed without jarring the comb, and if left on all season, as I have done occasionally, do not seem to discommode the bees. I like No. 14 wire best, as it is stiff and sure. In case the comb does not come down to the bottom-bar, I place the frame bottom up so that the comb presses against the top-bar, and put a temporary bottom-bar in bowing, so that the ends rest inside the end-bars, and touch the bottom-bar, and the bow pressing firmly against the lower part of comb; then with the wires on the bottom-bar cannot sag; and it will press against the top-bar while the bees fasten securely. With these wires it does not matter whether the transferred comb is full of honey or not; there are no strings to tie with honey-daubed fingers, and one can do transferring without any trouble, and with a great saving of time. I have used them for two seasons, and have seen nothing to beat them. I charge nothing for the patent, and only ask for the credit of originality, if found practicable.

I am using the Langstroth hive and frame, but on account of bees swarming so in this climate have increased the depth of some of my hives, giving a frame 10¼ inches perpendicular; have the pure Italian bee (50 odd colonies); have worked comb honey in sections, size of sections 6 inches horizontal, 5½ inches vertical, 1½ inches wide, ¼ inch thick; use tin separators, and tier up when necessary; hives from 5 to 8 feet apart, and 3 or 4 inches from the ground; no shade yet; clip all queens after laying; have returned swarms, cut out queen cells, and given more room; ventilated as much as possible, but bees did not give much comb in sections until late that was all capped over; considerable was nearly capped for a long time, and got discolored before being finished, though the second-story frames were all sealed over in some hives, and one hive last week had 21 frames and 27 sections, the sections same as I gave them in March, and 15 frames solid combs, the balance full of brood, and young queen just having laid, the colony filling the hive did not swarm out at all, but have banished their drones. I still have drones, and among some 90 or more queens had only one drone layer. Bees would work lively for a day or two and then the honey flow would appear to cease. I shall have about 1,500 lbs. of surplus this season; shall have several hundred lbs. of comb honey, have had to extract considerable from sections on account of not being filled out. There has been but little surplus honey in this neighborhood, owing somewhat to want of care given to the bees.

In the southern part of the State bees have fared worse. One bee-man in Ventura county, tells me he has 400 colonies of bees. He built 1,000 hives last winter, and filled them with foundation; piled them out-doors ready for swarming; will lose one-half his bees by starvation; and had no increase by swarms at all. The general complaint through the southern part of the State especially, is that bees are starving. The cold weather and late wet winter kept the flowers from blooming. The white sage, on which they depend, was almost an entire failure. The flowers of this section, 45 miles north of San Francisco, are different and I think of more variety than that part of the country. We had not so much bloom as we generally do, but we have not so many heads of stock as they do. It looks as though there might be a conflict between the herders and bee-men in the future, though in time, when the country becomes more settled, the stock will be more scarce. This part of the State is more settled and wild land is scarce; we naturally have more water. Our best season is when every other part of the State is suffering from drouth. Napa Valley never fails entirely of a crop, and is considered sure.

I think if the same interest was shown in this section, that the honey would make a better showing. The honey, except in the valley, has a better flavor, and is more like the eastern honey. I have heard of a few cases of foul-brood, but have never seen it; am entirely free from it, and know but little of moths from experience.

I use the extractor, and comb-foundation. I use pure wax which can be bought here for 27 to 28c., and am not troubled with sagging; have had it built out in three days; out of 50 or 60 colonies have had only some 5 or 6 frames of comb to break down from any cause. I conclude that the few cases were from having foundation filled with honey too soon after being built out instead of having brood, but it has given no trouble. When I find a comb broken, I slip on transferring wire to top of frame push in lower part under the lower-bar on both sides, and take it up, bees and all, without trouble, after removing comb on each side if necessary.

Sunny Side, Napa, Cal., Aug., 1879.

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From the Michigan Farmer.

Manual of the Apiary, Etc.

FRANK BENTON.

[COOK'S MANUAL OF THE APIARY: Published by T. G. Newman & Son, Chicago, Ill. Illustrated, 12mo.; cloth binding; per copy, $1.25.]

It will be remembered that I have several times recommended those who wished to become familiar with improved methods of managing bees, to secure a copy of Prof. A. J. Cook's excellent work, "Manual of the Apiary;" this I have done because a careful perusal of the work had convinced me that it is just the one to serve as a complete guide in apiarian matters. This recommendation can only be repeated now, and if anything with more emphasis than before, for a copy of the last edition just received from the author shows valuable additions to the contents and improvements in the text. The work has been improved mainly in the following particulars. Under the head of feeders an illustration and a description of the division board feeder which the Professor has invented and experimented with since the previous edition of his work, has been inserted; management of colonies containing fertile workers; and the addition of an illustrated appendix giving a history of movable frames, treating of several recently mentioned insects injurious to bees, describing the tulip-tree louse (*Lecanium tulipiferae*—Cook), which is so destructive at times to the tulip (whitewood) trees, but which secretes a sweet substance often mistaken for honey-dew and as easily appropriated by the bees; further, the appendix contains as an addition to the large list of honey plants given in the body of the work, several descriptions and illustrations of valuable plants, and also a representation and description of the honey comb coral so often spoken of as "petrified honey-comb," but which the Professor says is the work of little polyps that "existed millions upon millions of years before any flower bloomed or any bee sipped the precious nectar." Altogether this book of over three hundred pages, with its appendix and full alphabetical index, clear type and fine illustrations is just what every one interested in bees ought to have and which no one who obtains it will regret having purchased.

ARRANGEMENT OF COMBS.

It is not too early to begin to think how we are to winter our bees and how near each colony will come up to the standard deemed essential to success in the particular method chosen; so, too, we should begin to act—to arrange so as to have each colony in prime order when the final work of packing, housing, or putting into pits or cellars comes.

Besides having a vigorous young queen, plenty of young workers, and abundance of stores—pollen, sealed honey, etc., another point is worthy of early attention, namely: the arrangement of combs in the hive—not alone the arrangement with reference to a honey supply during the winter, but also with due regard to the needs of the bees when they commence breeding early next spring. If we expect to secure the best result for the honey and pollen consumed and the bees employed in brood rearing, we must not neglect the last mentioned point.

It is of course essential for one to know the various kinds of comb when he sees them, and then to know in what part of their habitation bees that are in the most prosperous condition choose to construct these kinds, and, going a step further, he must learn the use which the bees make of these different sorts of cells and in how far he must follow Nature, in his management of the combs. Aside from a few queen cells, the comb of a hive is made up almost wholly of two sizes of cells, namely: those one-fourth of an inch across—four of them side by side measuring an inch—sixteen covering a square inch of surface, and those measuring one-fifth of an inch across—five side by side measuring one inch—twenty-five being needed to cover a square inch of surface. Comb made up of these coarse cells may be used to rear drones in or to contain honey. The smaller cells are such as worker-bees are reared in, and may be used as receptacles for honey or pollen. Very few young bees are reared in cells that are not regular hexagonal prisms, and comb made up of small cells when devoted to the production of workers must be only seven-eighths of an inch in thickness; one and one-fourth inches is about the thickness of drone brood comb. When not occupied with brood these cells are, as previously stated, often used for honey, and, in this case; if the combs are far enough apart to permit it, the cells are lengthened out considerably; and when the bees wish to use them again in brood-rearing they are cut down. Now the tops and corners of the frames, as well as the outside frames, often contain cells more or less irregular, sometimes such as slant upwards instead of being horizontal; into all such the queen will never put eggs, unless compelled to do so by a lack of regular cells in which to deposit them; then suppose we were to separate the brood-nest (which is usually nearly spherical in form) into two parts by the insertion of a frame nearly or quite made up of these irregular cells, the queen will find it necessary to go around this comb, or confine her laying to the combs on one side of it, which latter will surely occur as the season approaches a close and the bees fill the inserted comb with honey;

while early in the season such a division of the brood-nest is very likely to bring about quite disastrous results by preventing the bees from clustering on the brood so as to keep it from chilling. But suppose in the fall work with the bees, not having brood in many of the combs we cannot tell except by the size and character of cells which combs ought to have a place near the center of the hive where we want the brood-nest to be established the following spring, and which ought to be placed outside or left out altogether, and suppose by chance we get one of these combs of irregular or deep, crooked cells, "store combs," as they are called, near the center, then when the bees commence brood-rearing, the latter part of the winter, they will cluster on one side of this misplaced comb, and when we open the hive in the spring there will generally be a smaller area occupied by brood in such hives than in such as have had their combs better arranged and are equal in other respects. If, however, the comb happens to be suitable for drone brood the queen will not be slow in finding it out, and we will have a great lot of those big-headed, lusty fellows—the drones, in process of development.

Let us examine now the arrangement of combs, brood and pollen in a model colony, that is, one in prime working order. Taking it early in the season we find the bees gathered between the central combs so that the cluster is nearly globular in form, its center being at the center of the hive. Within this cluster and about the center is arranged worker brood, the quantity contained in each comb being less as we leave the center ; thus, with the exception of the space between the combs, the brood presents a spherical form. Only a few cells of honey and pollen are scattered among the brood, and I might remark just here that compactness in the arrangement of brood is one of the points of superiority of Italian bees ; the developing larvæ and pupæ generate heat, which favors brood production, besides a smaller number of mature bees is required to cluster over a given number of occupied brood cells. Just at the edge of each circle of brood we find at the top and at the sides, pollen-cells—a strip two or three cells wide ; on either side of the space occupied by brood is a comb whose cells on the surface toward the center, are almost wholly used as store-cells for pollen. The honey occupies the space outside of the pollen, that is, the tops and ends of the frames and the entire body of the outside combs. As the season advances the bees enlarge the sphere of brood, and store the pollen farther from the center of the hive, using up the stock first gathered. This matter will certainly be plain if we let a hatter's block represent the spherical brood-mass ; the hat which he puts on the block, the arrangement of pollen-cells ; and the air outside, the surrounding honey, which extends, when undisturbed, as far as the harvest and the gathering force of the colony will admit.

We are to conclude then, that the body of each comb and most of the combs must be composed of worker brood cells, and that if there are any combs containing drone cells or irregular cells they are to be placed *outside of the brood-nest.* To this, however, there is one exception : the colony having a queen from which we wish to rear drones should have one or two frames of drone comb placed near the center.

With comb foundation and care all this can be attained, and the increased amount of brood reared will repay the extra attention and expense.

PROSPECTS FOR HONEY.

The prospect for a good yield of linden or basswood honey is very good. It rarely happens that these trees, Tilia Americana, blossom as profusely as they are about to this year, even very young trees are covered with buds, and already their fragrant, delicately yellow blossoms which droop in graceful tassel-like clusters, are unfolding their honey laden depths which the eager bees do not pass unnoticed.

The linden honey ranks very high, being light, good flavored, and free from the peculiar quality which makes clover honey, as well as some other kinds, leave a burning sensation in the throat. When first gathered it is very aromatic and possesses an agreeable minty flavor, and all things considered, is "not bad to take." It crystallizes sooner after having been gathered than do some other kinds, but now that the crystallization or "candying" of honey is very generally known to be an evidence of purity, this is no objection.

The linden commences to blossom in different parts of our State from July 1st to 15th, and usually continues about 2 weeks. At this time of the year the colonies of bees if they have been rightly managed, are always strong in numbers and thus able to send out a large gathering force, especially as few bees are needed to care for the brood, Several other plants would each probably furnish as much honey under the same circumstances as does the linden, but the best reports have come from the latter. It is quite a common thing during the best days of the linden harvest for a good colony (one hive) of bees to gather 10 or 15 lbs. of honey per day, and many report much larger yields. One man, Mr. J. W. Hosmer, of Minnesota, whose word I have no reason to doubt, stated some years ago in the AMERICAN BEE JOURNAL that one of his colonies stored 51 lbs. of liquid honey in one day during the linden yield.

It is a popular, yet erroneous, idea that bees gather just as much honey one pleasant day during the working season as any other day. Frequent examination of surplus honey boxes placed on the tops of frames or hives, or the use of the honey extractor will dispel this notion ; or another way is to have a hive containing a fair colony suspended by means of a spring balance and note daily increase (sometimes decrease) in weight. This is especially valuable during such a yield as linden or buckwheat, and when no after harvest can be expected, for it is then advisable to continue taking honey as long as possible, and still not deprive the bees of winter stores. Corn-tassels sometimes furnish quite a supply of honey just after the linden, and later still, buckwheat, where abundant gives nearly always much more than is needed for winter stores; while if golden-rods and wild asters are plenty, it is generally safe to extract most of the linden honey.

Even though the linden yield should be large, the probability is that the prices of honey in our own State will be kept up as high as they have been during the past season, on account of the losses in wintering since last year's crop.

THE USE OF A BEE-SMOKER.

Supposing each bee-owner has supplied himself with that indispensable adjunct of every well-appointed modern apiary—a bellows smoker—I will say something about its use. The material burned may be cotton rags, rotten or solid wood, in fact, anything that will burn ; yet for most purposes I prefer wood that has commenced to decay—that is, merely brashy ; wood of the harder sorts when it has reached this condition will burn well, give a good smoke, and yet will last very well. The disagreeable smell of burning cotton rags will remain about the clothing of the operator for days even, and this alone is enough to condemn them.

With the smoker well lighted, a screw-driver in hand, and the face well protected by means of a bee-veil, the bee-manipulator proceeds to the apiary. This bee-veil, by the way, is made by securing together the ends of a yard of black bobinet or crape-lace, and gathering with a piece of rubber cord the upper end of the bottomless sack thus formed, so it will fit close to the hat-band when the whole is drawn over the head. It may be well to blow a little smoke in at the entrance of the hive ; the bees, thus alarmed, will eat honey and become good-natured. Next, with the screw-driver pry up the cover, and as soon as possible drive some smoke under it ; lifting this off the combs can be got at. Select one of the straightest of moderate thickness, shove the others away from it and lift it out. Thus all can be examined and everything put back as at first, and if great care be taken in removing and inserting combs, and no quick movements be made, not a bee will resist the liberty provided the smoke be used freely at first. If, however, the bees seem inclined to show their notions regarding this seeming interference in their domestic affairs, a few whiffs of smoke will send them down, buzzing submissively, among the combs. Thus the experienced apiarist seems to say : "Children you now have to deal with your father, and you must behave right well ;" and he handles them tenderly, gently, admiringly, even as a father does his child.

But there is another reason why it is best to avoid "bruising" a single bee. The poison, formic acid, given off by the bees has a very penetrating odor, and, as the wine Bacchus gave to the Centaurs, when drawn by Hercules, brought down upon poor Pholus the angry giants, so these little insects, scenting the destruction which has been wrought, will be roused to action, and the luckless bee-keeper plays the part of Pholus whether he will or not. Happy is he then if his Hercules—the Bingham smoker—is at hand to put to flight the pigmies which have so soon become Centaurs.

Ordinarily only a small amount of smoke will be needed, especially with care in handling combs, and oftentimes the veil will not be necessary. When the bees are in the midst of a great honey harvest no veil or smoke will be necessary. Then, too, after a time you will not mind the stings so much, for, after you have received a thousand or so, it'll not hurt or swell so much afterward.

From the Nebraska Farmer.

Nebraska Bee-Keepers' Association.

GEORGE M. HAWLEY.

While in conversation with apiarists from different parts of the state, many have intimated a desire for a state organization for the advancement of bee-culture in Nebraska. Nearly every state in the Union has an organization of this kind, and finds it of great value to its members, and a benefit to those who cannot attend, but read the report through the press. It would seem as though such would be of great benefit to the Nebraska bee-keepers, and especially to the new comers, who contemplate keeping bees, since the honey harvest here is at the other end of the season from what it is in the East.

The old adage, "A swarm in July is not worth a fly," will hardly apply here, since many a swarm in September have filled their hive with sufficient honey to keep them well through the winter. The new comer should be conversant with these facts in order to secure the best results from his labor. By an association of this kind each becomes incited to greater efforts, and strives to delve deeper into the mysteries of bee-keeping than he has heretofore explored, and the result is that we obtain more honey in nicer shape for market, and in our combined efforts secure a better price for our honey. During State Fair would be as good a time for an organization of this kind to be formed as any, since bee-keepers from every part of the state will probably be in attendance. Let us hope that something will be done to promote the advancement of this industry before another year passes by.

From the Western Agriculturist.

Amateur Bee-Keeping.

EDSON GERRY.

In order to make bee-keeping pay, it is neccessary that we prepare ourselves for the business that we may make a success.

First, we should be provided with such books as treat on apiarian science, read and study them, until we have become posted as to the nature, habits and instincts of the honey bee, that we may be able to manage them, so as not to cross their nature in anything we may do. Whenever our acts are in accordance with nature, we shall be successful ; whenever we do anything contrary, it will interfere with their labor and prosperity. If we would succeed, we must understand the best manner of management. A man may have a large number of colonies around him, and yet be very far from being a practical bee-keeper. The hive, the bees, and all their surroundings, must be kept in good condition. Then, due attention, in proper time, will insure success. Without the necessary knowledge, it is useless to be to any expense, or to have anything to do with them. Many persons now keeping bees, receive no profit or benefit. Bee-keeping when properly managed, is a remunerative business, and is especially adapted to men who have become debilitated or are advanced in life, and ladies who are dependent on their labor for their support. It is an easy vocation and within the ability of invalids. Many who are not sufficiently strong and healthy to perform hard labor, can attend to an apiary, there being but little labor required after they are once put into proper condition.

Thus it will pay to devote a little time and money to become posted in the best and most successful management. It is better to first send and get ideas of experienced bee-keepers, than to learn by experimental knowledge just what to do, and when.

For the American Bee Journal.

From Western Illinois.

WM. CAMM.

I do not want my name to be put in the column of "blasted hopes." I will acknowledge that I am sorely disappointed, for this was the first year that I had counted upon any income from my bees, and although I started with nearly four times as many as I did last spring a year ago, I shall not get half so much honey in any shape, and indeed it will be more than I expect if all make enough to winter on; but I will not admit that I am discouraged. All outlay for hives and boxes will keep till another season, and such a drouth as this will not come every year. I have no melilot, but it does seem to me that if there is a plant that it would pay to cultivate for honey alone it is figwort (*scrophularia nodosa*).

In my thick double-walled hives I find it best to cut the entrance ¼ or ⅜ deep inside, but ⅝ or ¾ outside, then the returning bees fly almost into the hive and over those going out, for the latter always run some inches on the alighting-board before taking wing.

To stop robbing, close the entrance blocks to suit the case, and then lay upon them a piece of board as broad as the block, and shove it back against the front of the hive so that the robbers cannot get down behind it.

Where a black queen is mated with a yellow drone, her progeny are gentler and more industrious than the blacks, this I know; but when a yellow queen meets a black drone the result seems to be a cross lot of chickens. Wishing lately to introduce a yellow queen, I placed the cage containing the Italian queen upon top of a neighboring hive until I could find and remove the black queen. After looking over the comb once I had to carry the hive into a building out of the way of robbers, leaving nothing on the stand. I failed to find the black mother-bee, and meanwhile, as many bees had taken wing, a good swarm had clustered on and about the cage which had the yellow queen in it. I removed a black queen from a weak colony, placed the caged Italian in it, and let the bees run in, and now they are working like a natural swarm. I mention this, because it seems to me there is something in it that might be utilized in making artificial swarms.

Winchester, Ill., Sept. 7, 1879

From the Farmers' Review.

Hints on Wintering Bees.

PROF. A. J. COOK.

In view of the serious losses by bee-keepers during the past winter, and its two or three predecessors of the past ten years, there is scarce any subject so worthy of attention and study, and so sure to gain it as the one at the head of this article. If we may judge by the past, we may expect these trying seasons about once in three years. Notwithstanding this probability, I feel certain that the wise and *painstaking* apiarist has nothing to fear; more than this, I believe these trying winters will be to his advantage, on the principle of the "survival of the fittest." The careless, ignorant bee-keepers, with their unmarketable honey, will be weeded out, and he will be spared competition. This is a double advantage, as it is the illy-prepared honey of these ignorant, slovenly bee-keepers that most depreciates prices.

It seems more and more certain that wise forethought and corresponding action is going to bridge over these dreaded disasters. I know of no one in this vicinity who knew how, and practiced what he knew, that suffered loss the past winter. I know a few who knew, but were too negligent to act, hoping that good fortune would make it unnecessary, who lost heavily. I know many more, who neither knew or practiced, who lost all or nearly all.

That we may the better fortify against the dangers that are sure to confront us sooner or later, and may any winter, let us learn what these evils are.

Experience proves very clearly that very severe cold, even for two or three weeks, is dangerous to bees. This may work evil in two ways: The bees feel the chill, essay to move, and drop from the cluster and perish. With more activity, they eat more, and thus may use up the honey where the cluster is formed, and the surrounding honey being chilled and inaccessible, the bees actually starve. If the cold be long continued, the danger is greatly augmented. Extremes of heat and cold, are also detrimental, especially if the bees are prevented from flying. With either heat or cold the bees become uneasy, eat more, and unless they can fly become diseased and die.

The sorrowful experience of bee-keepers near by cider mills and sorghum presses, clearly demonstrates the importance of good food. This is doubly important during winters of long continued cold, when bees are unable to fly for long periods. It is often noticed that bees about cider mills are healthy in Autumn. It is only when the cold of winter shuts them in-doors that they succumb to dysentery.

The worker bees after a few weeks of active labor, wear out and die. Such bees are illy prepared to brave the dangers of a trying winter. If the bees breed actively till October, there will be no danger from this source.

Excessive moisture in and about the hive is thought to be a source of danger to the bees. This seems more than probable, as dampness and warmth always promote the development of fungus growths, which as evils are more insidious because they are often invisible without the microscope. These may not only affect the bee through the air which it consumes, but also by contaminating its food.

To secure a uniform temperature of about 40° Fahrenheit—it may safely vary 5° either way from this—we must in some way protect our bees. We may do this by using a dry, dark, well ventilated cellar, in which they must be placed before severe cold weather commences—about middle of November in this latitude, and till the flowers come, about April 1st here at Lansing, Michigan. To secure good ventilation, a pipe should extend from near the bottom of the cellar, and connect with a stove pipe or chimney above. Another pipe should connect the cellar with the outside, but should run for 20 feet under the ground, so that the air as it enters the cellar may be warmed by the natural heat of the earth. The depth of this pipe should be about 5 feet. It may be made of tile. Of course the cellar should be perfectly drained.

Houses built above ground may do as well as cellars, if they are so made as certainly to secure a uniform temperature. Setting these in a side hill will aid in this respect. Such houses would need no drainage, but should be ventilated the same as the cellar, except that it may be difficult to connect the pipe for the escape of foul air with a stove pipe or chimney above. In either of the above cases, do not remove the bees during the entire winter if still quiet. If they make a loud noise along in February or March, or soil the entrance to the hives, then they should be carried out, the ffrst warm day, for a flight, and returned to the cellar or house at night. With proper care this will seldom be necessary.

We may also secure uniformity of temberature by surrounding each hive, or 2 or 3 hives set close together, by a box, which shall leave a space of a foot between it and the hives. This space may be crowded full of fine straw or chaff, and all kept dry by a cover. A tunnel 5 or 6 inches square, placed at the entrance, would permit the bees to fly during protracted warmth in winter, and thus be of great service. This box should remain about the bees till May, in the colder parts of the country. Hives with double walls, filled in with chaff, will serve the same purpose. These, however, are large and awkward in summer. By tacking a cloth to the bottom of the upper story, or cover of the hive, this latter may be filled with chaff, which will not only aid in protecting against cold, but will serve as an excellent absorbent just above the bees.

When honey is good and sufficiently evaporated, bees always seal the cells. The finding of uncapped honey in October, therefore, is presumptive proof that it is not good. All such should be extracted. Only capped honey should be left for winter. If there is not enough of this—30 pounds—then feed, not glucose, or grape sugar, or poor sugar of any kind, but either good thick honey extracted early in the season, or good thick syrup made of granulated sugar. This food should be in a space not to exceed one cubic foot, confined by a division board, so that the bees may have to keep only the necessary space up to the required temperature. This is very important, during winters of long continued cold, as the bees are unable to break and reform the cluster, and so must have the honey concentrated in a few frames and not scattered through many, else they will be unable to reach it and will starve, though there be plenty of honey in the hive.

To secure this requisite, the bees must be kept breeding till in October. They will do this, if kept storing and given room. If there are no nectar secreting flowers in August and September, the bees can gather no honey, and the brood rearing will cease. In such cases we must feed a little honey daily. One-half pound is enough. Again, if the fall yield of honey is great, the bees may store so fast as to fill all the cells and leave no room for the queen to lay. Such cases in August and September are very common here. Then we have only to use the extractor and give more room by adding sections and boxes.

I have already spoken of dry cellars, and absorbents above the bees. Could our hives be so constructed as to secure a good absorbing surface entirely around the brood chamber, it would doubtless be an advantage.

Keep the bees breeding till October, feeding and abstracting if necessary. Early in October I would look at the bees, give the proper amount of good honey, extract or remove all that is uncapped, contract the chamber, and put on the chaff. By the middle or last of November, I would surround with boxes or put in cellar or house. In February or March I would examine frequently, and if I found any bees in any hive uneasy, I would give them a fly by removing those in cellar or house to summer stands. Early in April I would remove permanently to summer stands. In April I would keep brood chamber so confined, by use of division board, as to keep all the combs covered with bees, and by exchanging combs of capped brood, build up my weak colonies, so that by the middle of May all should be equally strong. By this course I have ever been spared loss by spring dwindling.

Our Letter Box.

Hainesville, Ill., Aug. 26, 1879.

I have not had much experience with bees till within the past few months, and finding something wrong with them, have come to you for information. I had, as I supposed, 10 colonies in first-class condition, strong and doing well. I am so situated I cannot be with them but about once a month. While home Aug. 12th, I went through my hives to see if all was right. I found plenty of brood, but here and there would be an uncapped cell, with dead bees or larvæ decayed and rotten, while some of the young bees that were hatched and trying to get out, but could not—seemed as if they were glued to the bottom. What is the cause? Finding young bees decayed means foul brood, does it not; if so how came it there? Does it come of its own accord, or does it have to be propagated? Now, will you, or some good-hearted writer for the American Bee Journal, explain foul-brood in the first stage, and how to cure it, if possible.

W. E. H.

[We fear your bees have that most loathsome complaint, "foul-brood." Mr. E. P. Abbe, of New Bedford, has a very interesting communication on page 450 of this number, giving the result of a series of experiments with this disease. If, however, it should develope into unmistakeable foul-brood, we doubt if the trouble, and risk, and expense would be compensated by their recovery. The greatest caution is required to prevent its spread. Undoubtedly, like everything else, there must have been a "first cause," but we also know it can be rapidly propagated by contact, and here lies the base of the argument to thoroughly eradicate the disease by burning bees, hives, combs, and everything which could possibly come in contact with it, as it long requires the closest watching after a cure is supposed to have been effected, to prevent a return. We are glad to say we have never had any experience with it.—Ed.]

North Lansing, Mich., Sept 9, 1879.

I have been looking around for a good site for the establishment of another apiary, and think the most advantageous I have found is in Wood county, Ohio, near the Maumee river. There I find plenty of basswood and a large quantity of melilot or sweet clover, as well as a fair amount of other honey-producing plants. My son, George L. Perry, and myself have an apiary at Lansing; but there are so many bees in this locality that it is, or soon will be over-stocked. There are not far from 600 or 800 colonies within bee-range of our apiary, many of them blacks or hybrids, so we cannot rear any more pure Italians without a great deal of trouble. Where I am going there are no bees within 6 miles that I can hear of excepting 3 or 4 old box hives. These I will buy or transfer and Italianize free, before I will let them remain as they are. I have been transferring through Michigan, Ohio, Indiana, Illinois, Missouri and Arkansas, for the past 4 summers. My son and partner, George L. Perry, is a graduate of the Michigan Agricultural College, under the tutorship of Prof. A. J. Cook. I shall have a new bee-feeder to give our brother bee-keepers at the National Convention. It is for winter-feeding, and can be used in the coldest weather, without disturbing or chilling the bees. It contains 3 apartments—1 for honey, 1 for water, and 1 for rye flour and will, I think, become a favorite with bee-keepers. I can endorse the American Bee Journal as the best bee publication in the world.

Solomon C. Perry.

Richmond, Texas, Aug. 16, 1879.

Enclosed find part of a weed that grows here. Bees work on it all day. This has been a fine season in this county for honey. Other parts of the State have been too dry. From 70 colonies I have taken 6,000 lbs. of honey, and got 42 young swarms. Will get several thousand pounds yet, as bees here gather honey until December. I have established a good home market in Houston and Galveston, at $15.00 per 100 lbs. in 1 lb. sections, and $10.00 per hundred lbs. for extracted.

J. W. Eckman.

[These are different species of boneset, or eupatorium (see "Manual," p. 238, fig. 97). There are 16 species in the eastern United States.—A. J. Cook.]

Canandaigua, N. Y., Sept. 8, 1879.

Last May I bought 36 colonies of bees wintered in the old box hives with the loss of 2 colonies. They were on south side of dwelling surrounded by board fence on the west and south; the land on the west being about 500 feet above. Most of the bees in this vicinity, at least quite a proportion (from 30 to 50 per cent.) winter-killed or dwindled away in the spring, and the amount of honey made is about one-quarter of last season. I subscribed for your very excellent Journal last June, and consider that I have already received my money value. I have just returned from New York, after interviewing Messrs. Thurber, Quinby, Thorne and others, as to the prospective price of honey in prize-boxes this season. They seem to think its scarcity, by the death of bees and unfavorable season in many of the States, will necessarily make it start in at about the price of last year, viz: 20c. per pound. They also claim that apiarists stood in their own light last season in sending their honey to so many different commission men, claiming that if the market could have been in about four first-class merchants' hands, the early season's satisfactory prices could have been maintained; but that the honey which needs very careful handling, in many instances getting into the hands of butter and cheese and other commission men's hands, who thought it must be disposed of at any price, much fine honey, some in bad condition, was sold at

10c. per pound. If the producers could form an agency, and not bull the market, they could control things, and all the honey produced this year could be sold at good, fair, living prices. Honey is a failure in this section. One apiarist who last year sold 8,000 lbs. from 100 colonies, this year has only 1,500 lbs. of surplus. C. G. GIBBARD.

[Our correspondent has raised a couple of points which will undoubtedly receive attention at the National Convention to be held in Chicago on the 21st inst.; especially is there scope for argument on the proposition to centralize the honey trade in the hands of as few dealers or agents as possible.—ED.]

Flint, Mich.. Sept. 11, 1879.

Between Aug. 1 and Sept. 1, fed to 14 colonies over 100 lbs. of sugar and honey, and some of them now have less than 3 and none over 10 lbs. of honey in their hives. So much for drouth and early frosts in this section. Presume I may send for more honey soon. E. M. R.

East Saginaw, Mich., Sept 6, 1879.

In discussing R. R. fare to the bee-keepers' convention to-day, it came to my mind that last year we had tickets offered to us from this place to Chicago, to attend the fair at your place for $7.00. The same fair will have an exhibition at the same time of the bee-keepers' meeting, and possibly some could avail themselves of those tickets to advantage. I have not yet made positive arrangements to attend but hope to be able to be with you. L. C. WHITING

Wells, Minn., Aug. 26, 1879.

I enclose you some insects or bugs which seem to be plenty on the golden rod. One of my little boys found a dead bee on golden rod, and when I came to examine it, I found one of the bugs fastened on or holding on to the bee. I have not been able to find any more enemies of the "Blessed Bees." I commenced bee-keeping one year ago last May with 2 colonies of black bees; have now 14 colonies of Italians. I Italianized in the spring. Bought a colony of Italian bees, raised my queens and drones, and kept my black drones cut out. I have now very large nice colonies, and they are working on golden rod for dear life. I live on the prairie where there is neither basswood nor maple. I am under great obligations to Prof. Cook for his valuable work, which has been my constant guide in my operations and successful management of the apiary. J. P. WEST.

[This is phymata erosa, described and illustrated in 4th edition of "Manual," page 293-295.—A. J. COOK.]

Kane, Ill., Sept. 5, 1879.

Enclosed find twig and bloom of a plant that grows near my place. It commenced blooming about the first of August, and is yet in bloom. The dry weather does not seem to hurt it. It grows from 3 to 6 feet high, and has a great many prongs and heavy top. The bees leave the buckwheat to work on this, and at all hours of the day. I wish to know its name and quality as a honey plant, and if healthy I will save seed and cultivate next season. I believe it will pay better than buckwheat, for bees only work on buckwheat 3 or 4 hours per day, while they work all day on this. I do not see how any person can keep bees with success without a copy of "Cook's Manual of the Apiary" and the AMERICAN BEE JOURNAL for their guide. Without them I would have been in the last ditch of "Blasted Hopes" this dry season; but with their aid I have increased 100 per cent., all in good condition. R. M. OSBORN.

[This is figwort (see Manual, p. 237, fig. 94), often called Simpson's honey-plant. Very excellent.—A. J. COOK.]

Bell's Station, Tenn., Aug. 27, 1879.

I wintered 20 colonies, have doubled my stock, and have taken 1,300 lbs. of extracted and 100 lbs. of comb honey. My bees are swarming rapidly at this time; we call them August swarms. I have had 5 or 6 swarms, all were put back but one, which I built up to make my 40 colonies. They are all in Langstroth hives, in good condition, and every colony has a fine Italian queen. Bees have done very well in this locality this season. There is a move on foot to get a bee association started in West Tennessee, but we have not organized yet. Hope we will do so soon, so we may have a representative in the National Convention. We have some very able men in our midst. If they would make a start, we could have some interesting correspondence in the pages of the AMERICAN BEE JOURNAL from this section.
JOHN H. SMITH.

White Rock, Texas, Aug. 7, 1879.

Bees have done little or almost nothing this season on account of the cold windy weather in the early spring, and the extremely hot and dry weather this summer. A great many bees died during the drouth, but mostly those kept in old box hives and gums. Most of them had been robbed down to the cross-sticks, and starved out of course. Practical bee-keepers have lost but few. Last winter was a hard one on us here, as our bees consumed their stores generally before the winter was over, and starved to death; and another thing, about the first of February, after bees had begun to gather pollen and were getting heavy with brood, we had a "Northerner" which prevented the bees from leaving the hive for about 3 days, which destroyed several colonies that were counted safely through. I had 32 colonies at the commencement of the drouth, some in very good condition and strong; but at one time, about the 20th of June, there was not a frame of honey in the yard, and not one cap sealed; the queens had ceased laying for nearly a month; the bees had been killing drones ever since April 1st, and the most discouraging time prevailed; robber bees from starving colonies prowling about, swarms coming out and leaving and others occasionally coming and settling near or going into some hive and raising a row with its inmates. But we had a rain June 22d and another the 28th, so that by July 1st we had some prospects for a short honey season. Corn tassel was in bloom, and in a few days were covered with plant lice, dropping their "honey dew" all over the top leaves, and attracting the bees in "heaps and piles." Cotton came into bloom about the 1st of July, and the bees commenced to gather both honey and pollen very fast, considering the depopulated condition of the colonies. I have united my weak colonies, and from 32 I have 25 good strong colonies and in good condition. There have been but few swarms this year in this vicinity, none of which did any good. The Italians are in nearly every apiary throughout this country, graded from the lowest to the highest. Let Mrs. A. S. Keys, of Holly, N. Y., try oil of sassafras for bee-stings. It will not cost over 10c. per ounce, and beats anything I have tried.

WM. R. HOWARD.

Caddo, C. W., Aug. 25, 1879.

In this letter I send you a bug which has bit me several times at night. The spot on my arm where bitten swelled half as large as a hen's egg. Please tell me what kind of a bug it is. Answer through the columns of the *Post and Tribune.* MRS. M. A. HELM.

[This insect is a true bug of the Reduvius family. Usually the insects of this family are content to suck the juices from other insects, which they distroy in great numbers, and so are our friends. But this one has a less enviable reputation. Even his scientific name has a bloody sound: Conorhinus sanguisuga, Le Cont. It is stated in American Entomologist, vol. 1, p. 88, that it insinuates itself into beds, like a near relative, Pirates biguttatus, Sang., which lives on bedbugs, but unlike the latter, sucks human blood at first hand. While taking its meal it fairly "straddles itself out and seems to enjoy it hugely." Prof. Uhler has received specimens from southern Ohio, with information that its bite causes severe inflammation. The late Dr. Hull was once bitten on the arm by one, and lost the use of this member for three days. The insect is found as far north as central Illinois.—A. J. COOK.]

San Bernardino, Cal., Sept. 1, 1879.

I send a bug to be named through the AMERICAN BEE JOURNAL. It is a real bedbug, and stealthily crawls under the bedclothes and while the sleeper is quiet he fills himself with blood; but after a few minutes a peculiar burning and disagreeable sensation follows. This year I have found the little red ant killing them.

GEO. B. WALLACE.

[This bug is ¾ of an inch long and wholly black, if we except the tarsi which are reddish brown, and the last two joints of the antennæ, which are cream-colored. It is closely related to the conorhinus sanguisuga in structure, and it seems in habits as well. See, also, answer to Mrs. M. A. Helm.—A. J. COOK.]

Birmingham, O., Aug. 13, 1879.

We went into winter quarters last fall with 45 colonies of bees, about half black and half Italian, and came out in May with 18 colonies, 2 only being black. This demonstrated to our mind the superiority of the Italian over the common bee. They were all wintered on their summer stands; 14 in Gallup frames and 31 in Langstroth frames; 4 of the 31 were chaff hives, and balance improved Simplicity. The bees in Gallup frames were crowded upon from 5 to 9 frames, with division board, and chaff cushion on top. Those in the Langstroth frame were put on 5 to 7 frames, with chaff division board at each side and chaff cushion on top. Of the 14 in Gallup frame only 5 came through alive, and these with but little honey; while those in the Langstroth frame seemingly had as much honey in the spring as in the fall. This has been a poor season for bees. The dry weather early in the season shortened the white clover yield, and lichen was a failure, so we have only gained the position we held a year ago in number of colonies, and no surplus honey of any amount. Bees seem to be doing fairly now on buckwheat of which we have 6 acres, which, if nothing more, will help to keep up brood rearing and enable them to get in shape for winter. As a practical bee-keeper's paper we think the AMERICAN BEE JOURNAL has no equal. C. A. GRAVES.

Climax, Mich., Aug. 18, 1879.

Having for the last 55 years kept bees, and never having contributed anything to the columns of your valuable BEE JOURNAL (which is not excelled by any of the bee publications of the day), I thought I would drop a few lines giving some of my observations in my experience with bees. Last season I had 2 large swarms issue at the same time, having stopped 4 others at the same time. They started for the woods at once, going across my cornfield. I followed pelting them with all my might for ¼ of a mile, and so disorganized them that they scattered about and finally returned to their old home. I then at once artificially swarmed them with success, and having been called to transfer a hive of bees last June, I found them with a good appearing queen, combs with plenty of brood, nine-tenths of which was drone brood, the remainder worker—all intermixed through the worker combs. My opinion is old age of queen was the cause. Would like to hear the opinion of some of my brother bee-keepers. The past winter with me was a disastrous one, having lost all my bees but 1 colony—120 colonies. I bought of James Heddon and others 9 colonies of the dark or leather colored variety of bees, which I believe are the best variety now bred in Michigan. I have increased them to 66 to date. They are still swarming, one being out while I am writing. I have mostly divided, giving full sets of old combs, feeding all my extracted honey from the old combs at times of dearth in bee-pastures. Shall feed mostly after the honey season is over. My bees are now doing finely on the red clover of second growth; have done finely on first growth of clover, even the large or mammoth variety; while the blacks take the back seat. I have been trying to rear queens in nuclei of small combs, all in full cards of comb; but almost invariably when the young queens commenced to lay they would swarm out with a few bees, without giving me any notice of their leaving. One of them, without my knowledge, entered a hive of blacks and by some means superseded the dark lady which was brooding nicely, and now they are as fine a colony of Italians as I have. Will some one inform me how to obviate the loss of young queens from at once leaving the nuclei as soon as fertilized? All have left me but one. Success to the AMERICAN BEE JOURNAL, as I could hardly know how to get along without its monthly visits. J. B. IDE.

[You have not given young queens room enough to deposit eggs after fertilization, the comb soon being filled with eggs and honey, they could not idly wait for brood to hatch out. Had you given plenty of empty combs, you would not have had your nuclei deserted. The mixed drone and worker brood was undoubtedly owing to a superannuated queen.—ED.]

Galena, Mo., Aug. 18, 1879.

Please give us an account of the "varmint" inclosed, per BEE JOURNAL. He has a sting ½ inch long and is called by the natives here, "cow-killer." They are said to be much larger in Texas and actually to kill cows there. I gave him a dead wasp and a few flies for grub en route, though I don't know as they will agree with the gentleman's taste. HAROLD FISK.

[The formidable ant-like insect sent by Mr. Fisk, is the Mutilla coccinia, Linn., commonly known as cow killer. It is really a digging wasp, belonging to the lowest family Mutilladæ, and closely related to the ant family, as seen in the form of the insect and the absence of wings in the females. While the presence of a large and terrible sting in the females and the absence of the same in the males, shows the true wasp character of this curious insect.

The cow-killer is one inch long, ant-like in form, with a bright red head, thorax and abdomen. Transverse dorsal lines of black extend across the front and middle of the abdomen. The whole under parts, the union of thorax and abdomen, the legs and the front of the head about the mouth are dark brown.

Why the name cow-killer is applied to these insects, I can not tell. That it is suggestive of fact is not at all likely, though it is stated that its sting is very severe.

Mr. Benton tells me that once in Tennessee he picked up one of these insects, which there, are known as red ants, when a friend exclaimed in horror, "Let it go or it will kill you!" His nerves caused him to obey, though his reason told him that such fear was undoubtedly groundless.

The winged male is smaller than the female, and as it has no sting is not to be feared at all.

If Mr. Fisk or any other friends of the AMERICAN BEE JOURNAL, will send me two or three pairs of these wasps, I will be very grateful. They dig holes in the ground, and store their earthen cells with insects.

This insect it seems possesses more than a common interest to the apiarist. Mr. A. H. R. Bryant, of Clarksville, Texas, in the "American Entomologist," Vol. II, page 337, states that he caught one of the large females in his bee-hive eating the young bees, and anon killing the bees with its powerful sting, though utterly undisturbed by their attacks.

The insects sent by S. L. Emery, Charterville, Ohio, are—

1. A sphinx moth (Sesia thysbe). These moths are seen about flowers in the hot sunshine. They poise, like humming-birds, above the flowers, and sip the nectar by use of a very long tongue.

2. The bee is the tailor-bee, whose strange habits and cells are described in my "Manual." This bee is peculiar in the dense yellow hairs beneath, which are usually covered with pollen.

3. This is a fly of the predaceous family Asilidæ. It is Laphria sericea, and so belongs to the same genus as L. thoraciea, mentioned on p. 300 of 4th Edition of "Manual." Is this also a bee-killer?

The plants sent by Mr. E. S. Flanagan, Belleville, Illinois, and so heartily commended as honey plants are solidago or golden-rod, and blue vervain or verbena hostata. As stated in August AMERICAN BEE JOURNAL, the white vervain is also a fine honey plant.—A. J. COOK.

Bounday City, Ind., Aug. 26, 1879.

I am very well pleased with the AMERICAN BEE JOURNAL, and every man having bees (though but one colony) should read it. My bees have done first-rate this summer, so far. I wintered 5 colonies out of 18; but I was not discouraged, I increased to 14, and have taken over 200 lbs. of honey.

DAVID K. KNOLL.

Pine Grove, Pa., Aug. 31, 1879.

With two old-style straw skeps, containing light colonies of black bees brought to my place by my father last spring, we started into the bee business. By reading the American Bee Journal, Prof. Cook's "Manual," Quinby's "Bee-Keeping," King's "Text-Book," and L. C. Root's "Bee Notes," we have so far got along admirably, but not without some mistakes. In May we purchased two additional colonies in Mitchell hives, which we transferred, and by dividing made seven colonies, and all but one have done as well as could be expected. By a late season and getting a late start, followed by a very severe drouth during June and July, our bees did not gain much until the latter part of July, when they had increased in numbers to about the average of an ordinary colony. One of the colonies was too long with a barren queen, but they are fast recovering, and will, we think, have ten Langstroth frames filled yet with plenty to winter on, and have plenty of young bees to come out strong in the spring, if successful in wintering. Our honey harvest is now at its best, as buckwheat abounds in this locality, which appears to secrete a great deal of honey, and several of the best colonies are working in the prize boxes, filling them with beautiful white comb and the very best of honey. Second crop clover, golden rod and other fall flowers also afford some honey, so that the bees are taxed to build comb fast enough to hold what they gather. We are using foundation in the brood frames and quite small triangular pieces in the sections for starters; using no separators, and it appears as if each comb would be separate and straight. Our stock is a little mixed yet, having blacks, hybrids and Italians. Have purchased several "warranted pure Italian queens," one of which produces pure hybrids with one and two bands. We would prefer to, and expect, to have all Italians, but somehow the impression was obtained that the blacks would work better on buckwheat; we are in doubt whether we had best make the change when the buckwheat crop is one of our main sources of honey. Can you, or any one with experience on this subject, advise through the Journal? So far as our observation has gone, there is no difference what kinds of flowers are visited, the bees appear to be all engaged side by side, even on red clover. It has been written that all beginners are tempted to experiment, and we are no exception, having started with the original Langstroth hives, we changed the form to boxes 12 inches deep, 15 inches wide and 15 inches long inside, so our frames are nearly 11x14, consequently have already two sizes. In traveling through this State and in part of Maryland we found time to visit some of the most extensive and experienced apiarists, also some less extensive, but found them generally enthusiastic and adopting the latest improvements. Of quite a number visited, some are subscribers to the American Bee Journal, some have been, and all should be. I have so far only found one who has had a large experience and been apparently successful of late, whose education is complete. He says that he knows all the books and periodicals contain or likely to contain. Just think what an acquisition such a person would be as an editor! Among others visited, I will mention D. A. Pike, of Smithsburg, Md., who is already widely known as a successful apiarist. Mr. Pike rears and sells a number of queens and uses all the latest improvements, taking pride in showing visitors everything that is interesting about his yards, and never tires of explaining and imparting useful information. His clear extracted and beautiful comb honey show the fruits of his success. Lancaster Co., Pa., has an Association of Bee-Keepers, who are all intelligent and wide-awake in the art. Mr. J. F. Hershey, of Mt. Joy, is an expert, and right at home among his bees. He had an Italian imported queen, just received from the office of the American Bee Journal, from which he expects to rear a few queens yet this fall. Mr. Hershey rears and sells a great many queens, and believes in improving the stock by infusing imported blood among his already improved strains of bees. The yield of honey is not as large this season as some others, except perhaps where buckwheat is raised; it may make a fair average. I send you for name an insect that I caught with its victim a honey bee. The specimen was quite perfect but a meddlesome boy in opening the case and drawing out the contents, separated and lost a part. W. H. S.

[Italian bees will gather and store honey from plants and at all times when native bees and hybrids can. The bee-killer you send is rendered useless as a specimen by being entirely destroyed as to shape and appearances.—Ed.]

Birmingham, Ohio, Aug. 21, 1879.

To-day I noticed 3 dead queens before the entrance of a hive, and on opening the hive found four more live queens on the combs (2 on a comb) which seemed to care as little for each other's presence as do the workers. Now, according to the authorities on bees, the first queen that hatches out destroys all the other cells; but it seems there are exceptions to all rules. They were all nice, large, yellow queens, and just what I wanted, as I had 2 swarms that were queenless.

C. A. Graves.

Bowden, Ga., Aug. 17, 1879.

On June 7th I bought and had shipped to me a colony of Italian bees, and on the 15th of August a large swarm issued from it. I watched for the queen, and caught her, put her in a cage, and placed a new queen at the entrance of the old hive, and when they began to return I put her at the entrance of the new hive and the bees returned and entered the new hive. I then moved it off and gave them 3 frames of comb and honey, and they are doing finely so far. This is 2½ months later than we usually have swarms in this section—most of our swarms are in April. I have 20 colonies of black bees, and am going to transfer all into frame hives and Italianize, for I am satisfied the Italians are far superior to the blacks. I had no swarms this summer, but made it up in honey.

H. McWilliams, M. D.

Wilmington, N. C., Aug. 18, 1879.

I am at a loss to think the Albino queens have been bred from the Italians. You have not written me how it was done, and it remains a mystery to me. My Italians have the distinct three yellow bands, and are very light; drones are very good, but I have had no workers with three white stripes till I got from you what are so-called Albino queens. How you have succeeded in breeding them I do not know; this much I am certain of, that they are a great improvement on bees—the Albinos are far superior to the original Italians. They are larger, stronger and far ahead of the Italians in gathering honey, so far as I have tested them. I have proven that a queen is not fertilized for life, and can take a bet of a $1,000 on it. I have many patent rights, which I paid for, that are of no account. I have invented my own hive, and it is sufficient to say it proves satisfactory to me and my bees. I do not use frames in these of my hives. I use for the surplus honey 6 lb. glass boxes, 4 to each hive. I have got this season 150 of these boxes, and have sold all at $1.00 per box. I have a good many movable frame hives, but do not like them so well as my own patent, for the simple reason that here in North Caroline, there is too much pitch-pine and gum which the bees bring into the hive, and glue the frames and contents so that it is hardly possible to open them or pull the frames out. I have seen Mr. Taylor pull with all his might to get the piece of canvas from the top so he could take the frames out and show them to me. Well, he calls me a "box-hive man," and yet he has not got a pound of honey from his bees procured from Dr. Brown. The editor of the AMERICAN BEE JOURNAL must be a poor editor, and not very experienced, for the simple reason that he publishes such slang from a man like Taylor.

H. H. BLOOM.

[The foregoing is extracted from a letter forwarded us for publication by friend D. A. Pike, of Smithsburg, Md., and is intended, we suppose, as a refutation of the pleasantry indulged in by Mr. R. C Taylor, on page 376, August number of this JOURNAL, in his query regarding Albino bees. Much of Mr. Bloom's letter has been omitted, because of its too personal nature. Mr. Taylor undoubtedly meant no offense, and certainly mentioned no names in his query; and being a question of a general nature we took pleasure in publishing and answering to the best of our knowledge, as we would had it been propounded by Mr. Bloom, or anybody else. We yet have had no cause to change our opinion of the Albino bee; if wrong, will friend Pike, who has, we believe, been quite a breeder of them, correct us, and give nativity and origin? We do know Mr. Pike is a very careful breeder, and if any new developments were to be made, he, as soon as any, would discover the mode. We have received queens from him whose progeny were very fine, and expect a nucleus with an Albino queen, upon which we will report when we have had time to form an opinion.—ED.]

Wittsburg. Ark., Aug. 16, 1879.

Bee-culture in this State is in its infancy. Bees have done well this year. This State is as good for bees as any, except California, as all trees and plants will grow here that will grow anywhere. We have the poplar tree in large quantities, and it is a fine honey producing tree. It blooms about the 20th of April and lasts about 25 days. Our honey harvest begins about the 1st of April and continues until the 1st of June; then we get no more honey until the last of August. I have sold all my honey at home this season at 12½c for comb and 10c for extracted. I have noticed my bees working on red-top grass while in bloom in large quantities; they were gathering from it, I suppose. They never commenced work on it until 3 o'clock p. m. Would it not be profitable for bees as well as for stock? I have been keeping bees for 2 years in the movable-frame hive, though I have worked with bees in the log-gum for 15 years. I never use any protection when working with my bees except the Bingham smoker. I have been successful with bees by giving them my attention, and carefully reading the AMERICAN BEE JOURNAL. On page 298, of the JOURNAL for 1879, one W. Bolling asked how to keep ants off of honey boards. Take strong soap suds and wash them off with it, and they will not bother it for 3 or 4 weeks.

W. H. NEWSOM.

Mortonsville, Ky., Sept. 8, 1879.

Enclosed find 2 top stems with flowers and a few of the summer leaves of some kind of weed that grows on the cliffs of the Kentucky river, which the bees work upon all day, and seem to be very fond of. The lower part of the stalk has a square appearance. Please give me the name of them. This has been a poor season for bees on account of drouth; very few swarms and but little surplus honey. Bees will have plenty to winter on.

J. T. WILSON.

[One is a species of bidens or Spanish-needle (see Manual, page 234), the other is a species of eupatorium or boneset (see Manual, page 238, fig. 97).—A. J. COOK.]

Atlantic, Iowa, Aug. 16, 1879.

I think that no one can do without the AMERICAN BEE JOURNAL and keep bees successfully, as it is truly a great instructor; and when you get fairly down to business it is quite cheering when something new turns up, to find some of its numerous correspondents have been there too, and have unraveled the whole mystery in a very scientific manner. The introduction of queens for instance, a knowledge of which is very valuable, and quite simple when one knows how. I have tried various ways, but find the most successful plan is to get your bees well filled with honey; remove the old queen, if any, take bees and comb out, and clean the hive; sprinkle strong peppermint water in it, then take each comb and separately sprinkle it and set back in the hive; then wet the bees thoroughly and pour down at entrance of hive, and as they are going in dip the queen in peppermint water and a little honey, and let her go in with the bees. In this way I have never lost a queen, and have had them depositing eggs the next day. There are other things I might write about, but give way to older lights.

G. B. OLNEY.

Big River Mills, Mo., Aug. 30, 1879.

The season here has been unusually dry from the beginning of spring till August 1st. Bees have stored no surplus honey, while some are in a starving condition. Those which swarmed have become weak, and I have doubled some, and expect to double up more. Flowers are yielding abundantly at present, and bees are storing rapidly; they are profuse around the oak trees, and seem to be at work on the twigs where the leaves grow out. I think they gather honey-dew off the leaves. I saw a hornet catch a bee a few days ago; it killed it as quickly as if it had been a fly. Bumble-bees have been going into the hives this season and helping themselves. I think I shall make the entrances smaller. I have 28 colonies at present, 2 of which are Italians. We know nothing more about extractors here than we have learned from the JOURNAL, as there is not one anywhere in the country. Can frames 9x14, and 10 inches square be extracted with the same extractor? How tall does melilot clover grow, what is it fit for besides bee-pasturage, and when should it and alsike clover be sown?

S. G. HAILE.

[Most of the extractors on sale will extract from combs of both sizes mentioned. Melilot clover grows from 2 to 4 feet high; has bloomed with us from June 10th to September 1; it is said to furnish good pasturage, and make good fodder if cut before it becomes too "woody"; it is better sown in the fall, but it will grow from spring sowing. Alsike clover should be sown early in the spring with timothy; five to seven lbs. of seed to the acre.—ED.]

Park's Corners, Ill., Sept. 22, 1879.

As reports seem to be in order, I will send mine. I started last spring with 10 colonies —7 Italians, 3 blacks, in rather poor condition; have increased to 38 good strong colonies; had my stakes set for 50, but the white clover all dried up just about swarming time, so I had to go a little slow. We had a good yield of clover honey early, but the drouth cut off most all supplies, so much so, that my bees went to work and converted their homes into butcher-shops, by killing off their drones, and stopped rearing brood, but when buckwheat blossomed, all went well again. The sign changed, and the fragrant smell of buckwheat told us that our pets were again at work for us. As I run them on the increase, I did not get a very large amount of honey, but more than my box-hive neighbors, both extracted and box honey. Some here say that they did not get a pound of honey this season. I use the Langstroth hive, and shall use all Italian bees, as they are moth-proof every time for me. But how can I winter my nuclei and save all my queens in them, as I have a few beauties? Success to the AMERICAN BEE JOURNAL.

D. G. WEBSTER.

Huntsville, Ala., Sept. 10, 1879.

Enclosed find samples of plants on which I found the bees busily at work. No. 1 grows about a foot high; main stem about 4 inches from the ground, sends out side branches to the number of 15 or 20; the stems resemble common plantain; takes kindly to hard tramped ground, such as barn-yards and roadsides. No. 2 I found on the side of a low mountain in great abundance, the tallest about 2 feet high; has a mint smell. The bees were making merry music on it. No. 3 stands 3 feet high; is called "snow on the mountain;" is planted in yards and gardens for ornament. The center of the leaf is green bordered with white; has the appearance of being covered with snow; when broken a milky substance oozes out; is not equal to the first two as a honey plant. Please give names as they are all new to me.

JOHN R. LEE.

[No. 3 is one of the cultivated Euphorbias. The leaf is variegated. The Euphorbias are much admired as ornamental plants. No. 2 is a Verbena. The stem is too short to enable one to give the species. No. 1 is a mint.—A. J. COOK.]

Hopkinsville, Ky., Aug. 13, 1879.

This has been one of the worst years for honey we have had in this section for many years. I have 21 colonies, all in 2-story Langstroth hives, and so far have not taken a pound of honey. Bees will secure a supply for winter in September, from a white-top weed, I do not know name of it. It yields abundantly, but it is very strong, hardly fit for use. In 1877 my yield from 10 colonies was 1,100 lbs.; sold at 15 to 25c. I purchased from Chas. Dadant one of his choice queens in June. At first I was not pleased with her, but since the brood has matured, I would not take double the price for her I paid. Will Italianize my colonies from her. Am raising queens now, but the trouble is to get drones at this scarce season of the year. Will some one tell me how to secure good drones in August and September? Long live the AMERICAN BEE JOURNAL.

R. M. ANDERSON.

Richmond, Ind., Aug 13, 1879.

This has been a poor season for bees in this vicinity. There are, I think, too many bees for the amount of forage. There are not less than 300 colonies of bees within 2 miles of this city, and our white clover and basswood were both cut short by the drouth. The best yield I have heard of was 35 lbs. from a single colony. I think the average yield in this vicinity will be not more than 8 lbs. to the colony. We all use the Langstroth hive. I winter in cellar; have never lost a colony. I always feed my late swarms early in the fall, then when sufficiently strong leave them undisturbed during the cold weather, which I think is one of the great secrets to success in wintering. I have much to learn about bee-keeping to make it a success; but by studying Langstroth's and Prof. Cook's works, and the monthly visits of the AMERICAN BEE JOURNAL, I hope and expect to learn many of the mysteries of the apiary.

M. H. WOLFER.

Cincinnati, O., Aug. 22, 1879.

I copy from Vick's Illustrated Magazine for August: "Mr. Johnson, of St. George, Utah, writes to the *Rural New Yorker* that a well cultivated acre of mignonette will give food to 500 colonies of bees." Can this possibly be true, or the half of it? Please let us have what you may happen to know about what quantity of seed is required per acre, in what manner plant it, what kind of cultivation?

H. W. S.

[We think the amount of nectar yield is considerably overstated in the language quoted above, though its capability is enormous. We have stalks now in bloom (Sept. 16) nearly 3 feet high, and some of the bloom spikelets are fully 12 inches in length, of the *reseda grandiflora* variety. To cultivate successfully, it should be planted in drills, on good rich soil, and work with hoe or cultivator. As the seeds are very small, we think 3 to 5 lbs. per acre would be great abundance.—ED.]

Lincoln, Tenn., Aug. 26, 1879.

Bees in good condition. Had 6 strong swarms within the last 10 days, and by giving them foundation and feeding they are doing well, though very late.

J. F. MONTGOMERY.

Scranton, Iowa, Sept. 11, 1879.

Will give my experience with "Parsons' new white mignonnette." I planted it by scattering the seed thinly on well prepared ground, in streaks 2 feet wide and rows 3 feet apart; I covered the seed by well raking the rows with a steel-tooth rake. It was a long time coming to any size; but whilst very small transplanted much of it, which I will never do again, as it is tedious work, and the plants are not certain to grow. I shall always sow the seed where I want it to grow. Mine grew to tip of spires about 3 feet high, covering the ground between rows; when first it bloomed there was no fragrance to it, and altogether I thought it a swindle; but it filled out and looked like a bed of snow. Bees worked on it from morn till dewy eve and again next day. It is as easy to grow as turnips, and as hardy as any annual I am aquainted with. The roots have the scent and taste of horseradish, and being white may answer the purpose of that root. It made fine bee pasture through a long drought of 2 months. It is of beautiful perennial form and showy.

T. B. BLAKE.

Near Carlise, Ky., Aug. 24, 1979.

After all my reading in your BEE JOURNAL, I am at a loss to determine the best plan to winter our bees. 1. I have a large room plastered and dry—would it not be preferable to the cellar? 2. How often during the winter should they have a fly out? 3. How soon would you put them in winter quarters? We have had poor success with our bees this summer, not one colony in a hundred has swarmed, and not one in a hundred has gathered any surplus honey. The bees appear to be strong in numbers, but not in honey. They are working now on buckwheat.

B. F. MATHERS.

[1. After last winter's disasters, and the many different methods tried, it would be difficult to point out *any* method that would be infallible. If you have a good dry cellar, in which the temperature can be kept constantly at about 40° Fah., and can be perfectly darkened and kept free from jarring noises, we think you cannot get a better. If you have a plastered room that will meet *all these requirements*, it should do as well.

2. They should have two or three flights —the oftener the better, if the weather will permit.

3. Prepare them, by a thorough examination during the pleasant weather of this month, but do not set them away till quite cool weather sets in; say, in the latter part of November.—ED.]

Emerald, Wis., Sept. 14, 1879.

I send you stalk of plant in bloom for the name, and whether it may not only be valuable for honey, but also as a medicinal herb. I met an old soldier who called it rheumatism weed. He uses the root steeped in liquor for rheumatism. A party of Chippewa Indians were in the store while I was packing the plant to mail you, when a squaw picked off a bud, and after pulverizing in her hand, put it to her nose and snuffed it, then went sneezing around for some time. This plant grows in the woodlands along small streams, and on rather low ground, along old roads and in pastures where timber is not dense. I do not know whether it would grow on other kinds of soil or not, but think it would. It grows in clusters of 15 or 20 stalks from 1 root, and from 1 to 5 feet high. Bees work on it from 4 to 6 weeks. From my experience, I am satisfied as a bee-plant it is ahead of any thing I have met with. JAS. S. GOODWIN.

[This is helenium antumnale, false sun flower or sneeze-weed. The reason for this latter name is quite apparent from Mr. Goodwin's letter. There is no reason to suppose that this plant has other valuable properties than that of secreting honey; yet, white hellebore, a most valuable insecticide, is like this in inducing sneezing

Very likely Hamlet might have said as truly, "There are more virtues in our plants than are dreampt of in your philosphy, Horatio." There is, no doubt, a fruitful source for experimentation in the study of the economic qualities of our common plants. And the honey plants should certainly be chosen as the first to study, and of these this family compositæ offers a host.—A. J. COOK.]

Battle Creek, Mich, Aug. 1, 1879.

I have taken the AMERICAN BEE JOURNAL since January, 1879, and am delighted with it. This spring I bought a colony of Italians, purchased me a hive, put them in it, and with the aid of the JOURNAL I have managed them so that they have the brood chamber well filled and 16 lbs. of surplus honey. They are very strong and healthy. My only trouble now is, where shall I winter them? HOWARD BETTERLEY.

Rushford, Minn., Sept. 2, 1879.

I send specimen of plant, two stalks of which grow in my garden. It began to bloom the first week in August, and will, I think, continue to bloom for two weeks yet. My bees work on it very busily. Will you please give me the name of plant? This has been a poor season for bees since the first of July, as they have gathered but little more honey than enough to live on. Long prosper the JOURNAL. G. W. WHITE.

[The sprig and flowers sent are from the Rocky Mountain bee-plant, or *Cleome integrifolia*, described in "Cook's Manual of the Apiary," page 238, and has many times been mentioned in the AMERICAN BEE JOURNAL, and commended as an excellent honey plant.—ED.]

Carson City, Mich., Sept. 15, 1879.

Please notice in the JOURNAL that the second annual meeting of the Northern Michigan Bee-Keeper's Association will be held at Carson City, Montcalm Co., Michigan, on the 16th and 17th of December next. Notices will be sent to all members, and due notice will be given in the local papers in the vicinity. O. R. GOODNO, *Secretary.*

Mohawk, N. Y., Aug. 27, 1879.

By mail you will find a miller of the common hive species, which are found around hives quite plenty. Are they injurious to bees? CHAS. G. FERRIS.

[The insect is a cut-worm moth, of the genus Agrotis. There are several species of these plain gray moths, which do no harm about the bees, but are great plant destroyers, as growers of cabbage, corn, tomatoes, etc., can attest. The nearly full-grown larvæ come up in May and June to cut off plants and dig out buds of fruit trees. They (the moths) seek concealment by day, and so are found in and around houses, hives, etc. They are attracted by lights, and so are very apt to be found in houses where people sit and read or work evenings. —A. J. COOK.]

Janesville, Wis., Sept. 18, 1879.

Having just commenced bee-culture I would like to learn all I can. I have 19 colonies, all in good condition except 2; those I got out of hollow trees in the woods, brought them home and put them in hives, They are strong in bees, but have not much honey. Now what I wish to know is, how to prepare sugar to feed them? Please answer in the next JOURNAL! L. FATZINGER.

[Use "A" sugar, dissolving to the consistency of honey or syrup with warm water, and feed inside the hive.—ED.]

Eglinton, Ont., Aug. 25, 1879.

There are mysteries connected with the bees which, after all the discoveries of the most acute observers, are inexplicable. I have a hive which appeared to be queenless. I united with it a good second swarm, and it appeared afterwards to be working well. The hive had one top box with an ample opening for the bees to store surplus honey, and, although the clover was very abundant, and others gave abundantly in the top boxes, I never saw a single bee in the box of this hive. Could any of your readers explain the cause of this? J. L.

[We think there is but little mystery about the case cited above. The bees undoubtedly found all the room they wanted for storing honey below, and did not become sufficiently numerous to work in the boxes till honey-gathering became light.—ED.]

Knowersville, N. Y., Sept. 15, 1879.

Please give me the names of the enclosed plants. W. D. WRIGHT.

[Both are species of solidago or golden rod. See Manual, page 243, fig. 99.—A. J. COOK.]

Neosho Rapids, Kans., Sept. 13, 1879.

Herewith find plant which grows in great abundance in the timber land in this county, and blooms Aug. 15 to Sept. 15. It is covered with bees from morning till night. It attains a height of from 3 to 5 feet. My strong colonies are storing honey very rapidly in the boxes. Two years ago last April I found a swarm of bees in the limb of a tall cottonwood tree. I cut it down, and got the queen and about half a gallon of bees, and put them in a hive. About the first of June they left their hive and settled on a bush; I put them back; the next morning at 10 o'clock they came out again. I put them in another hive, and about 2 o'clock they came out of it. Being my first experience with bees I did not know what to do. The bees settled on a rose bush, when I caught the queen and clipped one of her wings, then put them in the hive I had them in first, and commenced to feed them. They went to work and filled their hive about half full of comb that summer. The next spring when they swarmed the queen fell to the ground. I set the old hive back and put a new one in its place, then put the queen (a nice Italian) in it, and the bees soon came back and went in with her. This spring they swarmed and I hived them the same way. I have now 9 good colonies from that queen by natural swarming. I attribute all my success to "Cook's Manual of the Apiary" and the AMERICAN BEE JOURNAL. NATHAN DAVIS.

[This is a species of Spanish-needle, or bidens. See "Manual of the Apiary," page 244.—A. J. Cook.]

Richfield, Ill., Sept. 11, 1879.

I have been in this county 43 years, and this has been the poorest season for bees that I have ever experienced. I have been a bee-keeper for many years, keep the Italian strain, and use the Langstroth frame, but different style of hive. Last fall I left 45 colonies on their summer stands, of which 4 froze to death in March; had 9 natural swarms this season; no surplus honey; some honey from white clover; linden was a failure on account of drouth, and buckwheat also. Not one-half the colonies in this county have stores enough for winter, and mortality among them will be great. I would like to have the name of the accompanying sprig of plant. It may be common in some places, but not here. It seems to be attractive for bees. DAVID RICE, SR.

[This is a species of coreopsis, tick-seed (see page 244, Manual). As I have only the flower, I cannot tell the species.—A. J. Cook.]

Clinton, Ind., Sept. 20, 1879.

A new feature in the relation of sorghum manufactures *vs.* bee culture has come to light in this vicinity. A farmer living 5 miles west of here has 40 or 50 colonies of bees; a neighbor living close by engaged in manufacturing sorghum molasses; the bees swarmed around in such numbers as to compel the manufacturer to desist and go away. The bees then made a raid on the slush-hole, where the skimmings were thrown, and filled themselves to repletion, until they died there in such quantities as to cover the slush to the depth of 2½ or 3 inches, and lay dead and sick all over the yard near the furnace. Has the like occurred before, and what is the chemical or poisonous effect of the syrup on the bees? H. A. WHITE.

☞ A British bee-keeper says he has witnessed the destruction, in two weeks' time, of a thriving apiary of five colonies, solely by wasps—which being in a starving condition, and as much for warmth and protection as for food, forced an entrance into the hives. The best defense he has found, both against wasps and robber-bees from stronger colonies, is, first, to keep the colonies uniformly strong, and second, to close the entrance holes to the attacked hives so that only two bees can pass or repass at the same time, thus giving one means of defense which they will not be slow to take advantage of.

Foreign Notes.

Bee Show at Perth.

The Caledonian Apiarian and Entomological Society, in accordance with a precedent inaugurated some two years ago, chose the occasion of the Highland and Agricultural Society's Show for their exhibition of hives, bees, honey, etc., on July 29th and three following days. The Highland and Agricultural Society have taken the sister show under their wing in a very kindly manner, for they have at once given a free site, voted a grant of £20, and offered a handsome silver medal for the driving competition. Under such fair auspices the Show could hardly fail of success, and we have much pleasure in giving a brief account of the exhibition.

Passing along to the northeast corner of the grounds where are pitched the tents sacred to the bee, we find the center of attraction to be the Observatory hives. In this department there was a keen competition, and the first prize fell to Mr. Bryce Wilson, Newburgh, whose hive, working somewhat on the old "Huber" principle, was noticeable both for its ingenuity and beauty. The bars, 7 in number, were of the Woodbury size, arranged in a row, and standing parallel to each other. These working on a pivot opened out like the leaves of a book, while the bees found their way to the main channel down the center of the pivot. We do not know, however, if the bees would find themselves quite at home in the elaborate complication of such a dwelling. Mr. W. W. Young came second with a 6-bar Woodbury hive. In it the frames were arranged in two perpendicular rows, showing artificial comb foundation in the various stages of extension up to the complete cell. The exhibit looked remarkably neat, inclosed as it was in a bower. Mr. J. D. Hutcheson, Glasgow, made an exceedingly good third; it being a matter of no small difficulty to adjudge the respective places merited by these excellent exhibits.

A most interesting thing was elicited by the prize offered for the most artistic design wrought by the bees. Mr. W. W. Young, Perth, did himself an honor by the exhibition of the Perth arms—two spread eagles with the word "Perth" underneath, and wrought out in honey comb; and the design received the attention and admiration it so well deserved. Mr. R. R. Godfrey showed a beautiful collection of natural objects and diagrammatic illustrations of apicultural subjects. Among the former was a curiosity in the shape of a wasp's nest found in a hive. Terrible as these creatures have always seemed, we couldn't help thinking that our old enemies would have got their deserts had the Ligurian bee been tenants of the invaded hive.

The hives shown were numerous and all of a superior kind, both as to workmanship and design. The bar-frames indeed were so fine a show as to awaken a hope that the old "ruskie" and the bar-barities too long associated with its use will speedily vanish. Mr. Steele's and Mr. Raitt's supers were on the American 2-lb. system, while Mr. Young's were on the 1-lb. principle with the possibility of alteration in several directions. Mr. Young's collection of bee furniture was a rare sight to bee-keepers. It included 135 articles, from a needle for fixing queen cells up to a bar-frame hive. Mr. Steele's collection was inferior chiefly in point of extent. One of his exhibits was a machine for making artificial comb foundation, along with a specimen of the work produced, which was of a high order. This machine, we may state, is, like many of our leading inventions, the product of American ingenuity; but the mechanical reputation of this country was so far sustained by Mr. Thompson, of Blantyre, who, although only a working joiner, has succeeded in imitating the American design, and in producing from his machine impress sheets that took the first place. Mr. Thompson's foundation, it may be observed, was rather light in color, and Mr. Raitt's rather dark; but the workmanship of the three exhibits was of an exceptional kind.

The Patterson bar-frame feeder, improved by Mr. Young, is a capital thing. To both these gentlemen bee-keepers are much indebted, especially in a season like the present, when the bad weather has made feeding assume an abnormal importance. The straw hives showed a wonderfully good front. The first prize one had a flat wooden top, with comb foundation guides and spaces of ¼ inch cut in the top board for supering, an excellent idea, which all straw hives would do well to pick up. A clasp for holding frames and comb foundation while fixing was exhibited by Mr. Thompson.

The honey extractors received considerable notice. Mr. Steele's extractor is a reproduction of A. I. Root's, of America, being his 20-inch Woodbury, with a strong wire mesh of about ¾ inch. Mr. Young's was also a superior machine, somewhat after the same pattern, but instead of the comb being placed as it stands in the hive (as in the former one) it is placed on its end in a slanting position. Mr. Godfrey's collection of honey-producing plants was noticeable for its neatness, as was also Mr. Young's, wrought into the form of an arch, with a crown suspended from the center, and a water foundation beneath. Before passing out of the main tent we were invited to taste Mrs. Patterson's sweetmeats made with honey, which were excellent. Mr. Wilkie, of Gourock, followed suit by an invitation to taste his wine made from honey, but it was found that the Perth "drouths" had finished it. We were, however, assured by some of these gentlemen that it tasted admirably.

The manipulating tent was a scene of great interest during the show. It is of octagon shape, the operator standing in the middle, while the public feel secure under the protection of an intervening gauze screen. Driving bees from a straw skep and transferring their combs to a bar-frame hive were hourly operations, and never failed to strike with astonishment the spectators, who stood aghast at seeing a human being unprotected turning up a hive of bees and handling them as if they were blue flies. The following gentlemen conducted the manipulations during the different days: Baillie Laughland, Kilmarnock; Messrs. Paterson, Straun; Anderson, Dairy; Hutcheson, Glasgow; Ellis, Bridge of Earn, and Wilkie, Gourock. Not a little excitement was created among the onlookers when Mrs. W. W. Young entered the ring alone and demonstrated to them that ladies were quite capable of performing the different operations connected with apiculture.

Mr. Thomas G. Newman, editor of the AMERICAN BEE JOURNAL, who is in this country at present collecting information relative to the state of apicultural science in Britain, was present during the first three days of the show. He was sent by the American bee-keepers to visit various parts of Europe, and will return home to lay the material he may gather before the Convention which meets at Chicago in October. Mr. Newman gave a series of lectures during the different days on the American system of bee-keeping, which were very interesting, and were well received. The Society presented to him a medal as a souvenir of his visit to this country, and for the valuable services he has rendered to the present session of the Society.

The driving competition commenced at 11 o'clock yesterday, when six competitors entered the list. After the straw skeps had been balloted for, they were turned up one after the other, and by gently tapping on the sides of the hive the bees were compelled to leave their homes with their stores of brood and honey, and to take refuge in an empty skep placed above. The queens were captured and exhibited to a large assemblage of spectators. It was ultimately found that the Society's medal fell to Mr. John Wilkie, Gourock, who drove his bees and caged the queen in 8 minutes, being 12 minutes shorter time than the same operation was accomplished at Kilburn the other week. Mr. W. Raitt, Blairgowrie, was second (no prize), having taken 13 minutes. The judges in this department were Messrs. J. Ellice, Bridge of Earn, and Steele, Fowlis.

Altogether the show was a great success, the credit of which is due to Mr. W. W, Young, whose painstaking labors during the past six weeks has been very great; he deserves great praise for the manner in which he conducted the affairs of the Show, and the managers, assisted by the able Secretary, Mr. Bennett, and the Acting Committee.

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☞ Since the spring of 1876 Herr Benedict Brogilio, of Strausburg, has been practicing the following method with success, in introducing queens: The bees of the hive into which the queen is to be introduced are brushed from the combs into a box, then dampened with fresh water, and poured down before their hive; the queen being permitted to crawl into the hive with the buzzing bees. Before beginning this operation the queen that is with the colony at the time is removed, or any queen cells present are destroyed, when the bees have been shaken from their combs.

Caledonian Apiarian Society.

A general meeting of the above Society was held in the Tent, Showyard, Perth, on Thursday, for the purpose of nominating officers for the coming year. The following were unanimously chosen: Hon. President, the Right Hon. Earl of Rosebery: President, Charles Howatson, Esq., of Dornal; Vice Presidents, James Lumsden, Esq., of Arden; James Laughland, of Kilmarnock; Rev. John Irving, of Innellan; Hon. Secretary and Treasurer, Robt. J. Bennett, 50 Gordon Street, Glasgow. The following resolutions were then unanimously passed:

"That it is incumbent upon all bee-keepers to lend their aid and influence in forming local Societies to affiliate with the Caledonian Apiarian Society to encourage the science of apiculture throughout Scotland.

"That silver and bronze medals be awarded to the Perthshire Bee-Beepers' Society for competition at their local show for the year.

"That as the season this year has been so unpropitious as to prevent honey gathering, the September honey show in connection with the Glasgow Horticultural Society shall be abandoned this year.

"That our silver medal be presented to Mr. Thomas G. Newman, of Chicago, President of the North American Bee-Keepers' Association, as a souvenir of his visit, and for the valuable services he has rendered to the present session of the Caledonian Apiarian Society.

"That as in a poor season like the present, much spurious honey may be put into the market, all members should have their honey assorted and labeled by the Society, showing both its quality and genuineness."

A competition for the medal presented by the Highland and Agricultural Society for the driver of bees was held yesterday in the small tent adjacent to the Apiarian Society's handsome marquee, when six gentlemen entered. The judges were Mr. John Ellis, Bridge of Earn, and Mr. Steele, Fowlis Easter. The colonies were balloted for and the skeps inverted, and by gentle tapping the bees were induced to leave their stores of honey and brood in their old hive and take refuge in an empty skep. After a keen competition the winner of the medal was found to be Mr. John Wilkie, Gourock, whose previous achievements in this line are well known. The object of the competition was to demonstrate to bee-keepers the science of bee swarming.

From the British Bee Journal.

The Late Abbe Collin.

G. F. PEARSON.

I feel that you and many other readers of your *Journal* will lament the death of the old French *apiculteur* the Abbe Collin, in his 79th year, from an accident while engaged in hiving a swarm of bees on the 14th of last month. Monsieur Collin had devoted, so to speak, his whole life to the study of apiculture; and though too old readily to accept the new and improved methods now so generally adopted, had in his time added many steps to the ladder by which these improved methods have been reached. His work on the "Bee and Bee-Keeping" has reached the fifth edition, which alone will show the share he has had in promoting the science of apiculture, and in superseding the use of the brimstone pit in France.

Monsieur Collin was born in the first year of the present century, and in or about 1824 was appointed cure of Tomblaine, a village distant about two miles from Nancy. There he remained 37 years, and he carried on his studies in bee-keeping and bee habits. He was a man of much *esprit*, witty and pleasant in his conversation, and a fine classical scholar—the love for the Latin poets breaking out from time to time as he talked with you, even to the last. As a churchman he was a fine specimen of the old Gallican clergy, utterly free from any sort of bigotry or intolerance.

Monsieur Collin was still fairly strong, considering his great age. The last 18 years of his life he passed as honorary canon of the Church of Bon Secours at Nancy, to which a residence is attached, and where he kept usually from 12 to 20 colonies in his garden, but entirely for his own experiments. Indeed, he never kept bees in any sort of way for profit, and rather looked on the ordinary taking of honey from a hive as a sort of theft, which in a certain sense was an unfair proceeding to his little friends, who had labored so hard to store it, and to whom his whole life had been one long-continued devotion.

The Abbe Collin died in harness much as any soldier ever did on the field of battle. One of his colonies had swarmed on the morning of the 14th of June, and having no one to call to his aid at the moment, he got a ladder and with the help of his old servant placed it against the tree. He had mounted about 4 feet, when feeling the ladder shake, he unfortunately leaped to the ground, shattering his right ankle-bone and the bone of the leg in several places. He had every possible medical attention; but even to a young and strong man the accident would have been of the most grave nature, and at his advanced age amputation was impossible. A naturally good constitution enabled him to struggle against it for some time, but at his age the shock was too great, and he died peacefully on the 25th of June, 11 days after the accident.

Translated from *L'Apiculteur Alsacien-Lorrain*, by Frank Benton.

Comb Foundation—No. 6.

Liepore, Dec., 1878.

My Dear Friend.—Turn bottom upward one of those fine large basket-like hives in which you formerly hived your bees; cut out a piece of comb foundation the size of the hive across the middle less about one centimeters (three-eighths of an inch), and 1½ centimeter shorter than its heighth; round off the lower edge in such a manner that it will fit as nearly as possible to the bottom of the hive; then, with a coarse needle threaded with fine twine pierce the straw and fasten the foundation, which is held upright, as I did in the frames. When the first sheet is fastened, place parallel to it another, necessarily smaller, at a distance of thirty-six millmeters (one and three-eighths inches), and so proceed on each side of the foundation first inserted, until you have filled the hive. Then from a can having a long spout pour melted wax into the angles that the sheets of foundation made with the top of the hive. The sides are left free, as in fitting sheets into frames.

Nothing is prettier than a bee-hive prepared in this manner, but whatever some enthusiasts may say regarding it, beware of thinking it the most practical method. I have tried the experiment to my cost.

No matter what plan you adopt in the stocking this new habitation, less than a day suffices to reduce your ingenious fabric to a shapeless mass of ruins on the bottom-board or entangled with the strings. Softened by the heat due to the agitation of the bees every comb will have fallen down under the weight of the cluster. It will be good fortune indeed if, in this general destruction, the queen does not meet the fate of Pliny before Pompeii!

I know only one way to avoid this difficulty; and two conditions are indispensable: 1. You must have a straw hive filled with an energetic swarm having a young queen. 2. The year must be a very good one. The first condition is under your control; the second, unfortunately, is a child of hazard! However, if the month of April has been favorable and rape-blossoms have yielded well, try the experiment.

Now, toward the close of this month raise up your strong colony, sliding under it your hive furnished with comb-foundation, the hole in top of the lower hive being open; stop up the crevices between the two boxes with clay and close the entrance of the upper one. In order to leave the hive the bees are obliged to go through the new portion; after a little they will stop there; work with the wax will commence; the queen will descend as soon as some cells are finished, and, once below will rarely go up again. By the month of September the lower hive will have become the brood-nest, while that above will be full of honey. This new sort of a cap is to be removed and the lower hive closed above.

You will obtain in this manner a rapid renewal of the combs, without defect, and also quite a quantity of surplus honey in the cap. But I repeat, the season must be very favorable or else you will be obliged to resort to feeding for stores, a process to which, because of its expense, you would not be the only one to object.

I will say nothing of the partial renewal of the combs in an old hive by the introduction of foundation-sheets. The manipulation in this case would nearly equal the labors of Hercules, and the bee-keeper the best protected against stings, would say his prayers three times before venturing into this hornet's nest.

Then employ only to a very limited extent comb-foundation in immovable-comb hives that are already stocked. Shall we use it in the surplus boxes? For my part, I say no, because I sell the honey stored in these boxes as first-class honey and in the combs, and only virgin wax is easy to cut. To those manufacturers who, as I have read, recommend their foundation even for this purpose, I will reply by the use of some words which occurred to me two years ago: "The middle-wall of your combs is of leather or of paste-board; the products of our peasants with their rude and primitive hives, are as fine and more tender. You would do well, I think, to go back."

If you only sell liquid honey it is evident that you could make good use of comb-foundation in the surplus honey-boxes. However, in order to accord with the natural inclination of the bees, give them, in these places, only drone-comb foundation.

"But place no reliance upon foundation sheets which, in case the workers refrain from destroying them, would only give large, irregular cells!" This absurdity was certainly born in the brain of some ideologist who never examined the interior of a bee-hive except—in a dream.

In the building of cells bees know only three sizes: that of worker-cells, that of drone-cells, and that of queen-cells. All their application of geometric principles is limited to this. Why? Well the explanation of this is easy. Nature mainly impels, I might say solely impels, whatever exists to perpetuate itself. But what do our insects need for the preservation and the propagation of their kind? The three fundamental brood-cells, and nothing more. They only have to make cells, the accumulation of stores being only a secondary matter in the life of these little creatures, and this accumulation can be made largely in the ordinary cells as fast as the advancing season renders them available by the discontinuance of laying.

The conclusion to be drawn from this letter and those which I have previously written is: Use comb-foundation, but not always, nor everywhere. Follow my advice concerning it and try nothing further; you will save yourself some vexatious experiences, and, what is not less important, you will spare your purse. Dr. Reisser.

Bee-Keeping in Algeria.

I have just got the news that at the *Concours Regional* of Beauvaise—in other words, Flower and Bee Show—I have been awarded a *Medaille de Vermeil* (silver-gilt) for the completeness of my exhibit, and especially the introduction of the manufacture of foundation into France, as also my supers, when the principal judge was Mons. Hamet. You may imagine I consider this a triumph. I have sold all my bees and leave here very soon—heat unbearable, killing me—so I will locate near Paris (D.V.), and run a few colonies in the Gatinais, if possible. This was an awful season for bees here—3 swarms on 60 colonies, and not a drop of honey. Same all around—Arabs and French Algerian bees and Italians all alike.—*Arthur Todd, Blidale, Algeria, July* 8, 1879, *in British Bee Journal.*

Lausanne, Switzerland, Convention.

The Societe Romand d'Apiculture convened at Lausanne, (Canton of Vaud), on August 21st. There were about 80 present, four being ladies. The date of the meeting had been advanced in order to suit the convenience of the Hon. Thos. G. Newman of Chicago, President of the North American Bee-Keepers' Association, who had kindly promised to attend. He occupied a position at the right of Mons. C. de Ribeaucourt, the president.

The minutes of the last meeting were approved.

The president delivered an address which was well received. Owing to the success of Mons. Bertrand's Bulletin the number of members has increased from 96 to 161 and will soon attain a much higher figure by the union of the Societe Vaudoise whose members will be united to our society.

The President wished a hearty welcome to Mr. Newman and explained that this gentleman was appointed by the American National Association to attend the different bee conventions and the honey shows of Europe, to officially represent the bee-keepers of America and aid in establishing a bond of union.

The Treasurer presented his annual report which was, on motion, accepted.

After the enrollment of new members, the President and two members of the committee were re-elected.

Then the assembly wishing to give a mark of sympathy and gratitude to men who have labored assiduously for the progress of bee-keeping, elected the following persons as honorary members: Hon. Thos. G. Newman, of Chicago, Ill.; Mr. Chas. Dadant, of Hamilton, Ill.; Mons. Ph. Ritter, of Bern, President of the German-Swisse Association, and the Rev. J. Jeker, of Lubingen, Redactor of the Calendar for Mons. Bertrand's Bulletin.

The annual dues for each member for the year 1879 were then fixed, after discussion, at 3½ francs. A discussion then ensued on the formation of sections (branches) of the Society.

Mr. Newman, after having delivered a short address in reply to that of the President, gave most interesting and detailed explanations of a model of the Langstroth Hive, which he brought with him, as well as on different kinds of wax foundations, far superior to our Europeon foundations, including the new wire foundation, which would be exceedingly useful to those bee-keepers who are in the habit of carrying their bees to the mountains, for a second crop.

There was a show of implements for the apiary, such as Swiss, Layens, Quinby-Dadant and Burky hives, honey extractors, and a great many samples of Swiss and foreign honey, including Chili honey, which was found very bad, California and New York honey, in tin cans, two years old, of very good quality, but perhaps not quite equal to the *fresh* Swisse mountain honey.

At dinner a humorous discussion took place between Mr. Newman and several members on the topic of "Shall we sell Honey at low or high prices," (M. Bertrand, interpreter.) Messrs. Newman, Rochert, Bertrand and others spoke in favor of cheap prices, while M. Nonguier and others declared they would be glad to give their honey at low figures if they could only learn from Mr. Newman how to get *American quantities* of honey, to pay the expense and trouble. Mr. Newman replied he had previously explained American bee management and that the Swiss flora and the Swiss bee-keepers must do the rest.

M. Bertrand told the assembly that the American honey would come by tons to the Swiss market if they kept the prices of their honey so high—more than double the price of American honey.

By general request Mr. Newman gave an interesting report of the different crops of honey obtained in the Northern States, and the time of blooming of the greatest honey-producing flora of America.

After dinner, before going to visit Mons. Dumoulin's apiary in the town of Lausanne, M. Nonguier thanked Mr. Newman, in the name of the assembly, for his kind visit, and three enthusiastic cheers were given in the Swiss way, by the beating of hands, "three times three" in honor of the bee-keepers of America. We shall all long remember that most interesting day.

ED. BERTRAND,
Secretary of the Society Romande.
Nyon, Swisse, August 22, 1879.

The Austro-German Convention.

More than 700 bee-keepers assembled at the Hall at Prague, on Tuesday, Sept. 9, 1879, at the opening of the 24th annual Convocation of the Austro-German Association. From all the provinces of Germany and Austria, from France, Italy, Russia and America came the representatives of rational apiculture, to compare notes as to what had been attained during the past 10 years, and to discuss the most important points in this very interesting branch of husbandry.

Herr Ritter Von Comers, the President opened the session by a nice speech, welcoming the visitors to the Convention, and the Mayor of Prague gave a hearty welcome to the Association.

Before proceeding with the discussions, the Russian Councillor of State, Herr Prof. Dr. Butlerow, who was entrusted with the mission of presenting in person to Dr. Dzierzon, the Order of Saint Anna from the Emperor of Russia for his efforts for the elevation of apiculture. Dr. Butlerow said it gave him great pleasure to present this mark of high esteem to Dr. Dzierzon, and then placed the badge upon the Doctor's coat. Dr. Dzierzon was much affected by the transaction and said that he regretted that the programme was interrupted by an act of such a personal nature, but still he was glad to see that so high a personage had so acknowledged his modest efforts on behalf of rational apiculture.

Herr Werner then stated that the Emperor of Germany had recently conferred upon Mr. Hilbert, of Maciejewo, the Order of the Crown, for his remedy for foul brood.

After reading the minutes of the last

meeting the discussions commenced by the following ;

How to increase the agreeableness of the management of bees..—Dr. Dzierzon introduced the subject by stating that the first point was the meekness of the bee itself. He preferred the Italian, Caucassian, and Krainer bees, who were not so much disposed to sting as the native bees. The hives should be in such a condition as to make them feel at home and to prevent their being irritated. He approved of many of the new inventions for the management of the bees, as means to this end.

Herr Hilbert said that the family arrangements of the hive was such as to induce happiness and contentment among its inmates.

Prof. Sartori, of Milan, Italy, said that he had lately made journeys through Russia, France and Germany, and everywhere found a desire for rational bee-culture. He had pleasure in presenting some Russian queen bees to the society.

Herr John Schmidt, of Moravia, said that he preferred bees that would sting, that proved that they were healthy. He preferred the Cyprian bees, but each race is good, if well treated.

The President remarked that the widow of the late Baron of Berlepsch, and her daughter were present, and introduced them to the assembly with appropriate remarks.

The American Representative was formally presented to the Congress, the President remarking that he regarded it as a great honor for the Association to receive a Representative from America, a country that is known to be progressive as well as very practical in the science of apiculture. He had great pleasure, therefore, in welcoming to a seat in that body Mr. T. G. Newman, who was not only the Representative of the "North American Bee-Keepers' Association," but also the President of that honorable and much respected body. This was followed by much cheering, and then we were called upon for a speech. We remarked that America desired to exhibit the good feeling which she had towards all the kindred societies of the World, and had sent her Representative to personally express that feeling, not only to the societies of Great Britain, but also to those on the European Continent—but more especially to the Austro-German Congress, whose members comprised so many of the famous names of excellent apiarists, that are revered the world over. We came to see and talk with them—to listen and to learn, as well as to tell them how Americans were progressing in the science of apiculture. We wished them all a prosperous and interesting session. Our remarks were interpreted and repeated by the honorable Baroness of Berlepsch, and were received with many cheers.

Upon the question as to whether it would do to cross the Italian bee with apis dorsata, Dr. Dzierzon stated that he did not believe it would be advantageous.

Herr Stahala, Councillor of the Consistory in Moravia spoke concerning the safest method of introducing queens, and advised the transferring of the bees as well as the queen into a new hive. Finding themselves in new quarters they will the more readily accept the new queen without trouble.

Herr Lehzen, of Hanover, Prof. Sartori and Paster Puchar thought it quite unnecessary to so disturb the colony.

Herr Vogel advocated the introduction of the Caucassian bee. They are more easily controlled, and are the most docile of all the races of bees ; the queen being exceedingly prolific. One thing he was able to state, and that was the honey gathering qualities of the bees.

Prof. Dr. Butlerow, of Russia. also endorsed the statement concerning the qualities of the Caucassian bees.

Herr Frei, of Neuremburg, gave his method of queen rearing.

Herr Reinert, of Starkov, wished to know why in parts of the country where foul brood occurs that it suddenly appears, and how can it be prevented ?

Herr Hilbert gave his experience with it, and explained his treatment of the disease and methods for preventing it.

After the Banquet and the distribution of the prizes, the Convocation adjourned to meet at Cologne next year.

Hereafter we hope to be able to find room for a full report of the discussions, which at present is impossible.

DZIERZON AND BERLEPSCH.—Pastor Johann Dzierzon, of Carlsmarket, Prussia, is the most celebrated of the German bee-masters. He is the author of the famous "Dzierzon Theory," a statement of the manner in which reproduction takes place among bees. It is upon this theory, which has repeatedly been proved to be correct, that modern bee-culture rests. Whenever Dzierzon appears in the German bee convention—those enthusiastic assemblies composed of hundreds of German and Austrian bee-culturists, ardent admirers of the wondrous little bee—he is greeted with "Hail to the great master!" The late Baron von Berlepsch frequently called the "Bee-Baron," who also occupied a place among the great apiculturists of Germany, was at first skeptical regarding the Dzierzon theory, but afterwards became its warmest supporter and ablest expounder. One of the wise sayings of von Berlepsch—many of which have become proverbial among German bee-culturists is : *Vor allem lernt Theorie, sonst bleibt ihr practische Stuemper euer Leben lang.*" In our good mother English—and it certainly deserves a place there—this would read : Above all things learn the theory, else you will remain practical blunderers your life long."—*Mich. Farmer.*

☞Herr Rudolph Mayerhœffer, Secretary of one of the prominent apiarian societies in Bohemia, and editor of the Austrian bee journal (*Oesterreichische Bienen-Zeitung*), writing from Prague under date of July 6th, says : "I request you to announce in the AMERICAN BEE JOURNAL the names of those Yankees who have been made corresponding members of our Society. They are : Messrs. A. I. Root, Medina, O.; Frank Benton, Michigan State Agricultural College, Lansing, Mich.; Charles Dadant, Hamilton, Ill.

Business Matters.

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972 & 974 West Madison St. CHICAGO, ILL.

Local Convention Directory.

1879. *Time and Place of Meeting.*

Oct. 2.—Union, at Shelbyville, Ky.
2, 3.—Southern Kentucky, at Edmunton, Ky.
7.—Central Kentucky, at Lexington, Ky.
7.—Albany County, N. Y., at Albany, N. Y.
7.—Central Kentucky, at Louisville, Ky.
15—Central Michigan, at Lansing, Mich.
21.—National Convention, at Chicago, Ill.
30, 31.—W. Ill. and E. Iowa, at Burlington, Iowa.
Nov. 10.—Lancaster Co., Pa., at Lancaster.
Dec. 9.—Northwestern Union, at St. Paul, Minn.
16, 17.—Northern Michigan, at Carson City, Mich.

1880.
Jan. 13.—N. W. Ill. & S. W. Wis., annual, at Davis, Ill.
Feb. 11—Northeastern, at Utica, N. Y.

☞ In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

☞ The Western Illinois and Eastern Iowa Bee-Keepers' Society will meet at Burlington, Iowa, on Thursday and Friday, the 30th and 31st of the present month. This is one of the largest and most promising Societies in the country, and their meetings are always characterized with an unusual degree of interest. They extend a cordial invitation to any and all interested in bee-keeping to attend their meeting, and the committee of reception propose to receive and exhibit free all articles sent by bee-keepers or manufacturers, if addressed in care of Mr. Geo. Bischoff, Burlington, Iowa, and freight prepaid. Reduced rates will be given at the hotels. The usual list of prizes, will be given to members present, and will be more varied and useful than ever. They earnestly request members to bring their badges. Their present active membership foots up the handsome total of 130. We expect to meet many of the members of this Society at the National Convention to be held in this city on the 21st of this month.

Dunham Foundation Machine.

Mrs. Frances Dunham has fowarded to the AMERICAN BEE JOURNAL Museum a 12-inch foundation machine of her make, and intended for exhibition at the National Convention. This machine is gotten up in a very neat and substantial manner, and were there nothing superior claimed for the foundation manufactured by it, the machine would sell readily when placed in competition with others, because of superiority in make. A patent has been applied for on the machine, though we do not know the specifications filed or patentable points claimed.

Apiarian Supplies for Europe.

That many of the American methods of securing surplus honey and preparing it for maaket have met with favor in the old country, is evidenced by the fact that on the 9th ult. an order was filled from our supply department for Messrs. Geo. Neighbour & Son, London, England, consisting of several tons of apiarian supplies, embracing hives, extractors, prize boxes, sections, separators, cases, smokers, uncapping knives, etc. There is also a very gratifying demand for bee-literature—the shipment embracing several hundred copies of "Cook's Manual," Newman's "Bee-Culture," "Honey as Food and Medicine," and other publications. Messrs. Neighbour & Son preface the order with the significant remark, "This is only an initial order."

☞ The annual Convention of the Kentucky Bee-Keepers' Association will be held in Lexington, Ky., on Tuesday, Oct. 7th, at 10 a.m. Arrangements are perfected for a large and enthusiastic gathering. Chas. F. Muth, of Cincinnati, O., and many other prominent apiarists are expected to be in attendance. The distinguished President of this Society said at their last meeting: "Our Conventions become more and more interesting; each meeting improves on the last." With true Kentucky hospitality, they "cordially invite all bee-keepers and those who have any desire to hear bee-keeping discussed, to attend."

☞ The following letter speaks for itself:

Springfield, O., Aug. 7, 1879.

* * * I am almost ashame to be sending one dollar semi-occasionally, when I see what Doolittle has done; but, good for him! I wish he could send you ten thousand names and dollars. I am going to make a trip across the State with my horse and wagon, and if you will send me a few extra JOURNALS, etc., by the last of next week, I will do what I can for you.

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I shall continue to sell, at reasonable rates, a large variety of Bee-Keepers' Supplies, such as

MUTH'S ALL-METAL HONEY EXTRACTOR,

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BEESWAX, GLOVES, VEILS, STRAW MATS, ALSIKE CLOVER SEED,

as well as a great assortment of Garden and Field Seeds, &c. For further particulars address,

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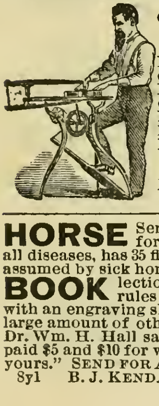
Foot-Power Machinery



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General Commission Merchants,

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1865.— **THE** —1879.

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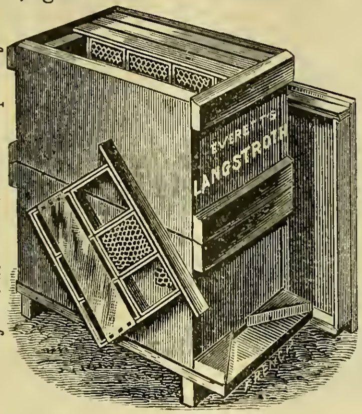

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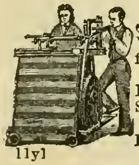

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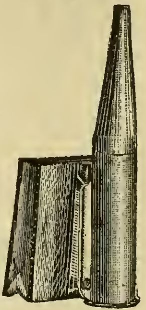

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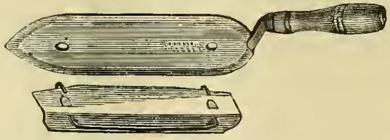

Are used plain, if the combs are held upright, and with the cap-catcher, if laid on a table. They are not *like any other* honey knife ever made. They are superior in finish and temper, and do much more and better work. *No one can afford to be without one.* Plain, $1.00; with movable cap-catcher, $1.25. Send for Circular for dozen rates for Knives and Bingham Smokers to BINGHAM & HETHERINGTON,
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There are now over 1,000 of these Hives in use in different parts of the United States, and wherever tried they are pronounced the best Hives before the public for all general and special purposes. We are now prepared to promptly fill all orders for the North Star, or Improved Langstroth, with our patent Manipulating Side. Samples of surplus honey taken from the North Star, as also our hives in use, may be seen at the American Bee Journal office. Send for illustrated circular—correspondence solicited.

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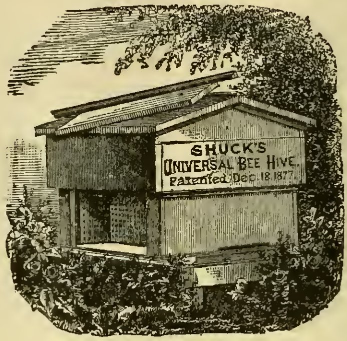

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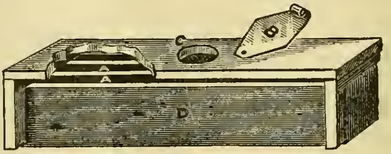

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The American Bee Journal

Devoted Exclusively to Bee Culture.

Vol. XV. Chicago, Illinois, November, 1879. No. 11.

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☞ Any one having the following Nos. of the A. B. J. for sale will please write to us, naming price, as we wish to purchase them, July and Aug. 1866; Jan. 1875 and Jan., Feb., Apr., May and June 1877.

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☞ Wm. Carr, Esq., (England) has our thanks for copies of the Lincolnshire Bee-Keepers' Association List of Prizes for honey, hives, bees, &c.

Editor's Table.

"Home again! Home again!
From a Foreign Shore
Oh! How it fills our Soul with joy
To greet our friends once more!"

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☞ The Editor desires to greet all the readers of the Bee Journal, and to thank them for the many kind words of greeting he has received since arriving home. Many thanks to one and all.

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☞ Mons. Bertrand, of Nyon, Switzerland, writes that in one of his mountain apiaries eight hives of bees gave 468 lbs. of honey, or 59 lbs. per hive.

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☞ The reports from Alsace and Lorraine indicate that the year—as far as July—has been favorable to cultivators of bees, especially in the way of increase of stock.

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☞ At the South Kensington (London) Bee and Honey Show, Everett's was the only American Honey Extractor on exhibition, and was awarded the second premium; the first premium being awarded to one invented by T. W. Cowan, Esq., a gentleman living near London. We thought we had stated this before, but find upon examination that it was omitted. In our August number page 337, we stated that four American exhibits intended for the Kilburn Show arrived too late for competition but were "much admired" by those who had seen them. Among these were the Everett Extractor.

The National Convention.

For the first time in the history of the National Association it has held an annual meeting in Chicago, and all seemed not only to pronounce it a grand success but to be even unwilling to have it adjourn. We had meetings during three full days, and at the last meeting, in the evening of the last day, the interest was even more manifest than at the first meeting of the first day.

The programme contained subjects of unusual interest, and these received the closest critical examination, and were discussed with the keenest relish. For the first time, we think we are safe in saying, the daily papers have given that attention to our meetings that they deserve. Four or five reporters were seen at the tables at each session, and from one to three columns of a report appeared in the Chicago daily papers each day. Either the papers are more enterprising, or else the subject is considered of more importance in the West than it is in the East.

We have this month given the space of the Journal, usually devoted to other departments, almost wholly to the Convention Report, believing that our readers will consider it the *newest* as well as the *best* reading matter that could be offered to them at this time. It is conveniently divided by topics for discussion and every subject can easily be found by consulting the index on the first page. As will be readily seen, the last page is put into smaller type in order to have the Report complete, many advertisements having been crowded out entirely.

The place of the next meeting, Cincinnati, is well chosen, and will generally accommodate those from the South as well as those living in the central States. Let us express the hope that it will be a well-attended and very interesting meeting.

The Chicago Convention has been a grand success; the best of feeling having prevailed throughout.

☞ We have determined to abandon the credit system after this year. There are about 1,000 of our subscribers who have not yet paid for the present year's subscription. To "dun" them is not only unpleasant but costs considerable, and we give timely notice now that in future we shall send the American Bee Journal only to those who have paid for it *in advance.* We do not willingly refuse to trust our subscribers, but really we cannot afford the luxury any longer. We think all will see the justice of this course and remit in time, so as to lose no numbers. We *do* wish those who are in arrears would pay up and save not only their own feelings but ours also.

☞ We have received from the publisher, D. Bogue, London, a copy of the third edition of "Hunter's Manual of Bee-Keeping." It has been thoroughly revised and much improved. We notice in it many quotations from American authorities, and also engravings of many American implements for the apiary. It will, doubtless, aid British readers to join in the onward march of progress. Price, $1.50.

☞ From Mr. A. I. Root, Medina, O., we have received a copy of his new work, entitled "The A, B, C of Bee-Culture." It is now complete, and makes a handsome volume. It embraces "everything pertaining to the care of the honey-bee," and will be very valuable to every beginner, as well as those more advanced. Price, in cloth, $1.25.

☞ The Illustrated *Christian Weekly* and other papers have published Mrs. Cotton's advertisement stating that her hive and system would "insure a return of $50.00 a year from every hive," &c. Mr. G. O. Goodhue, of Danville, Province of Quebec, has written to the *Christian Weekly*, reproving it for publishing it, especially as it also contained an editorial endorsement of Mrs. C. That paper pleads ignorance, and desires information. Will those therefore who have at hand *facts* concerning Mrs. Cotton's swindling operations, please send a statement of such to the Rev. G. L. Shearer, 150 Nassau St., New York. Copies of the American Bee Journal and *Gleanings* have already been sent to him, but he wants more facts from her victims.

Honey Market.—White honey in the comb, unglassed sections, is quoted in Chicago, Cincinnati, St. Louis and New York at 15@16c.; extracted, 7@8c. In California—comb honey 15@16c.; extracted 10@12c.; beeswax 24@26.

The Swiss Honey-Cake.

In all our travels in Europe we found honey on the hotel tables but in two countries—Switzerland and Italy. But a peculiar kind of honey-cake is always found on the dessert-plates of every "*table d'hote*," i. e. the dinner table where a regular course is served up at a stipulated price to all guests alike. The *Continental Gazette*, of August 28th, gives the following description of this honey-cake or "Leckerli," as it is called:

Every tourist in Switzerland quickly becomes acquainted with the oblong little biscuit compounded of honey, flour and certain roots, which goes by the name of "Basler Leckerli." He sees it invariably on the dessert-plates at every table d'hote; the waiters of the Basle hotels are almost certain to thrust a packet of it upon his notice before he leaves the city; on his way to Basle or on his way from it, at the buffets of nearly every railway station in Alsace and Baden, he will be confronted by a small glass case with the superscription "Basler Leckerli," or the French adaptation, "Leckerlis de Bale." He may or may not be pleased with the curious flavor of this widely-advertised delicacy of the local confectioners, which is as famous in Basle as the "Lebkerchen" in Nuremberg and Bern, or the "Spanish bread" in Baden. Here and there in the streets of Basle he will come upon a manufactory of the article—"Leckerli-fabrik"—the sight of which will give him some conception of the enormous quantities of this piece of confectionery which are produced in the town of Holbein and Erasmus. A Swiss "Cook's Lexicone" gives no fewer than fifteen recipes for the concoction of Leckerli, and the popular dialectic poet of Basle, Theodor Meyer Merian, has devoted an entire poem to its history, qualities, and uses. The greatest trade in it, however, is done during the Christmas season. Thousands and thousands of packets are then sent by the Swiss to their friends and to children through the post; and it is said that a Switzer never goes to Basle on a tour of business or pleasure without being strictly charged by his wife and children, "Be sure to bring back a packet of real Leckerli."

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☞ Wm. H. Kirk, of Waterbury, Conn., died in September, after a week's illness. Mr. Kirk has been an enthusiastic bee-keeper for at least 20 years.

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MICHIGAN CONVENTION.—The Annual State Convention of the Michigan Bee-Keepers' Association, will be held at Jackson, Mich., on Wednesday Dec. 10, 1879. Come all. T. F. BINGHAM, *Sec.*

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☞ The Muscatine Bee-Keepers' Association will hold their Annual Convention on the 19th and 20th of November inst., at the court house, in the city of Muscatine, Iowa. All members of this Association are especially invited to attend our Annual Convention. L. ALLEN, *Pres.*

"Yankee" Advertising in London.

From the London *Echo* of a recent date we copy the following item, which appeared in their city news under the title of "A Dynamite 'Scare' in the City:"

Owing to alarming rumors in the locality, and also it would seem, to direct complaints on the part of some of the neighbors, the premises occupied by the firm of H. K. and F. B. Thurber and Co., 115 and 117 Cannon street, City, were yesterday afternoon visited officially by Superintendent Foster, and Inspector Carter, of the Metropolitan Police. It would appear, so far as particulars of the rumors and complaints are traceable to reliable sources that many of the passers-by in this busy thoroughfare, on Friday afternoon last, were seized with something approaching panic by observing, in prominent letters, the word "Dynamite" on a large number of wooden cases, then in course of unloading from a van. As may readily be supposed, from the well known fearfully destructive qualities of the article in question, the passers-by did not linger on the way, and the matter came to the ears of the police. Hence the offical visit to the premises yesterday. It will be satisfactory to many who daily pass along this part of Cannon street to know that their fears are entirely groundless. The boxes in question, however, far from containing dynamite, really contain comb honey, the entire label running, "Handle gently as dynamite, as a drop of one inch will cause certain destruction to the contents." Such was the method taken by the American firm to direct special attention to the necessity of care in handling the boxes.

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☞ I notice that by the addition of a single letter "n" to "either" in my communication on page 445 in the October number, I am made to say exactly the contrary of what I wrote and meant.

C. W. TAYLOR.

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AN EXPLANATORY CARD.

Jerseyville, Ill., Oct. 28, 1879.

T. G. NEWMAN, ESQ., Chicago, Ill.:—After reading through carefully the circular of J. Y. Detweiler, of Ohio, I find I have been wrongly influenced, and am truly sorry for the part I have taken against you in said circular, for I find they are all wrong. Please publish this card in justice to myself.

Truly yours, ELVIN ARMSTRONG.

[We cheerfully give place to the above card from Mr. Armstrong. Other parties, whose names appear in that circular, have made the *amende honorable.* But few *can* read the circular without discovering that there is no real cause for complaint or for unkind words. "Truth is mighty and will prevail."—ED.]

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☞ Mr. C. F. Muth received premiums on display, quality, and merchantable shape of comb honey at the Cincinnati, O. Exposition, last month.

Correspondence.

For the American Bee Journal.

Uniting Bees for Winter.

G. M. DOOLITTLE.

That bees can be united many times with profit, is a thing that is generally known, but how to do it is not universally known, as appears by the questions asked by many. Strong colonies cannot be profitably united, for they are in a better condition as they are, than they would be when two or more were put together; but those that are weak and queenless are the ones to be united, in order to make them profitable to the owner.

Our usual plan of uniting is this: blow smoke into the entrance of the hives of bees to be united until the bees make a loud roaring, then select the stand you wish the bees to occupy and carry all to that place; lift the quilt or honey boards and smoke all thoroughly again, then select the hive you wish the bees to occupy and take out all the frames, with adhering bees, and put them into a hive or box for that purpose; put the hive on the stand and take a frame from the first one and then the other, till the hive is filled, then put on the quilt and the cover or cap. Take the remaining frames and shake the bees down at the entrance, taking a frame from a different hive each time, till all the bees are off the combs, then shake all the bees out of the hives that may not have been on the combs, and see that all enter the hive. If you have any choice in the queens, kill all but the one you desire to remain, otherwise pay no attention to queens. Take the hives and surplus combs and store them away nicely, for another year. Do not leave the hive or anything on the former stand for the bees to go back to, and they will all remain with the colony where they were united. Many will tell you to move the hives to be united a foot or so each day till you get them together, but we consider this a waste of time as well as a tedious operation.

The smoking of the bees so as to cause them to fill themselves with honey, and the general mixing up, induced by each bee being a stranger to the other, causes them to mark their location anew, and if a few should return and find no trace of their former home, they will soon go back to their new location. To illustrate: several years ago we united bees in this way for the first time, and on the next pleasant day we saw bees hovering around the place where they had formerly stood. Thinking that perhaps they would not find their way back and would perish there, or go off as homeless wanderers to die, we placed a hive with several empty combs and a frame of honey on their former stands. In about an hour we went to see how many had returned and found them flying to and from the hives, quite briskly. We soon perceived that those going out were loaded and those going in were empty, and we said to ourselves, they were being robbed, but on examination we found that these returning bees had loaded up and were carrying the honey placed in the hives to their new location. We left the hives till night, when, on examination, we found the honey all gone, but not a bee had remained.

If those to be united are light in stores, take only the frames containing the most honey, and if they have not enough then, feed them. We usually unite during the last of Sep. or the first part of Oct., but if you have delayed uniting your weak colonies till now, it may be done the first of this month, on any day when the bees can fly freely.

Borodino, N. Y., Oct., 1879.

Our Letter Box.

Garland, Sept. 19, 1879.

Enclosed find a small plant; please identify and report in the JOURNAL. It grows on rocky and barren land, and is at this time covered with bees; they seem to neglect the asters and golden rods growing by the side of it. I never discovered bees working on it till the fall of 1874; at that time it was very scarce, but is quite plenty since the fires have burnt over the rocky hillsides. The sample is of small size, and the upper half of the stalk. It grows from 1 to 2 feet high. JNO. F. EGGLESTON.

[This is *solidago bicolor*, and so a golden rod, although the flower is white and the habit of the plant quite unlike most of the flowers of this genus.—A. J. COOK.]

Chillicothe, Mo., Oct. 4, 1879.

To brother J. D. Enos, greeting: My assistant comes laughingly and calls my attention to your article on transferring bees, in the present (October) number of the JOURNAL. Let me assure you that I have been using for eight or nine years just the thing you describe—only that I have a useful improvement that you have not. I bend the wire in a "frame staple," as I call it, into a fence-row zig-zag shape. This gives it a spring margin that enables it to fit all frames even though they differ in width (or length if you use them lengthwise) as much as half an inch. Try this improvement once and you will find it valuable. It comes quite convenient, too, when you wish to cover a joint in your comb, the staple reaching over on both pieces. I think if you will look over the back numbers of the AMERICAN BEE JOURNAL some six or seven years ago, you will find a full description by myself of the thing you "only ask the credit of originating." I do not claim to have originated it for a certainty, only the improvement.

J. W. GREENE.

Rockwood, Mich., Oct. 10, 1879.

I commenced the spring with 55 colonies in fair condition; increased to 65; I tried Mr. R. Dart's plan to prevent increase. I had 800 lbs. of honey this year, leaving my bees plenty to winter on that is capped over.

LEVI N. MILLER.

Woodbury, Conn., Oct. 15, 1879.

The piece of comb containing eggs shipped to me by you, marked taken from the hive 10:20 a. m., Sept. 29th, arrived here Oct. 3d., at 3:15 p. m.: but on account of being away, it was not put into the hive on arrival, I reached home Oct. 4th, 7:45 p. m. I then put the comb under the quilt until Monday the 6th, and now I have over one-half of the cells with capped worker-brood in.

H. L. JEFFREY.

Baldwin, Pa., Oct. 24, 1879.

I am looking around for a good location for bee-keeping as a specialty—a location where there is no doubt of the existence of large surplus honey crop. Having very little knowledge of the country and its resources so far as regards bee-pasturage. I would like to have your opinion on where, in your judgment, you would consider the best location (leaving out California) for an apiary.

W. P. JOHNSON.

[There are scores of locations in nearly all the Central, and many of the Northern and Southern States, where the right man could undoubtedly do well as an apiarist. But the person desiring to engage in the business, is the one to determine if they will meet his wants.—ED.]

Worthington, Iowa, Oct. 6. 1879.

I have been a bee-keeper for 20 years, and this has been my poorest season for surplus honey. Last fall I put 73 colonies in my bee-cellar, left one on summer stand packed with chaff, and 8 piled up in a fence corner of the bee-yard, surrounded and covered with straw. All came out strong, one was queenless and two had drone-laying queens. I had them all very strong by the middle of May. Extracted the first honey June 15th, the last on July 5th; in all, 2885 lbs., besides 195 lbs. comb honey in section-boxes. I increased to 112 by dividing, in August; all are now strong in bees and honey. I shall prepare for wintering the same as last fall, and have no fear of any loss. I am convinced it is not in wintering, but in preparing them for winter, that we are either successful or meet with loss.

P. LATTNER.

Shelbyville, Ky., Oct. 25, 1879.

The past has been a poor season for honey. Bees in fair condition now. Have not had a natural swarm this year, from 18 colonies. Made two and lost two during the season.

ROBT. K. MOORE.

Libertyville, Mo., Oct. 25, 1879.

I have 11 colonies of Italian bees in good condition for wintering. Have sold $60. worth of queens. The BEE JOURNAL gets more valuable every month. Thanks.

J. B. DINES.

Fort Atkinson, Wis., Oct. 13, 1879.

Bees have done very poorly in this section this season. My 30 colonies only gave 15 increase and 300 lbs. of surplus honey, more than what I had to feed back to the latest swarms. This, you see, will barely pay expenses. Some are nearly disgusted and offer to sell for three dollars per colony in large quantities.

L. M. ROBERTS.

Crown City, O., Oct. 7, 1879.

I'm happy! Why? Because my 92 colonies have enough honey to winter them, and what else? Why over 50 colonies have queens reared this summer and the balance last year's queens. My bees are strong, and getting honey rapidly. I'm going to have an outside box for every hive, and keep hives and sections stuffed summer and winter, with proper ventilation. Without "stuffing," I claim no one can winter successfully and obtain the largest yield of honey on summer stands. I sleep better when my bees are packed nicely.

C. NEWSOM.

Blairstown, Iowa, Oct. 12, 1878.

The season here has been dry, and consequently bees have not done well. In May and June they gathered considerable honey, where they were kept strong and not allowed to swarm, but since then they have done very little, on buckwheat, golden rod and asters; not more than enough for winter stores. We had a frost about the middle of September that destroyed all forage except white clover which is blooming quite profusely, though not yielding much honey. Since the frost, the weather has been very warm, inducing much activity and consumption of stores so that it is impossible to open a hive without attracting robbers.

HARRY G. BURNET.

Johnstown, N. Y., Oct. 17, 1879.

During the very warm days we have had in October a neighbor said to me: "I think there is something wrong with your bees, and that you are losing a great many; they come to my garden and are on the decaying fruit—apples, pears, &c.—and I notice many are unable to fly away; they attempt, but seem weak, and only fly a few inches and fall, and then run over the ground, making apparently frantic efforts to get away, but are unable." This seemed surprising to me, as I supposed my entire apiary was in a healthy and thrifty condition, and a little consideration has convinced me that the bees had become intoxicated on the fermented juice of decaying fruit.

W. D FOOTE

Garden Island, Ont., Aug. 26, 1879.

Some years ago, at a Cleveland convention—I think it was in 1872—Mr. J. W. Hosmer gave his experienee in wintering bees. He said "he did not put any colony into winter quarters that had more than a quart of bees in it, If more than one quart was in any hive, when the time came to put them away for winter, he emptied them on the ground to die. His hives wintered well, and consumed only abut 10 lbs. honey." Does Mr. Hosmer still practice the same plan with success, or has his quart wintering business played him out? Also, have any of the successful apiarists adopted his plan of wintering? A. MALONE.

[At the time you mention Mr. Hosmer's plan was considerably talked and written about. It did not, however, come into use among bee-keepers, not even with Mr. Hosmer himself, so far as we know. Very likely colonies thus treated might winter well, in some seasons, but that the plan is a practical one hardly agress with our theory or practice.—Ed.]

New Boston, Ill., Oct. 8, 1879.

From 250 colonies we have 1,000 lbs extracted and 1,600 lbs comb honey. This is a very small crop, but probably this is the best average in the Mississippi Valley. Many bees in old hives, as well as new swarms, are now (Oct. 3) starving. The loss of bees this winter and next spring will be large. Does bee-keeping pay? Is there money in the apiary? Only for those who have good locations, who are up to the times and make a specialty of the "beesness. D. D. PALMER.

LeGrand, Iowa, Oct. 14, 1879.

Bees have done poorly here this season, especially since the dry hot weather set in about the middle of July. Up to that time they did well. I wintered 14 colonies without loss, but afterwards lost a queenlees one. Many lost the majority of their bees here from improper wintering. They will lose heavily this winter, if there is not more or less feeding done this fall.

J. W. SANDERS.

East Saginaw, Mich., Oct. 13, 1879.

I send herewith one of my atmospheric feeders, for your museum, and for exhibition at the National Convention. It stands on an incline, so that no feed will remain after the bees are through taking it. No bees can be drowned in the shallow trough, and no robbers can get at it. To fill it, turn the face side up, remove the thumb-screw, fill and replace the screw, and place it at the entrance of the hive, face downward.

H. H. CHENEY.

[It was placed in our museum, after being exhibited at the Convention.—Ed.]

Scienega, Cal., Sept. 10, 1879.

I see the AMERICAN BEE JOURNAL keeps fully up to its former usefulness and reliability. Am uncertain about my future plans as yet. The reason is, an entire failure in Southern California so far as surplus honey is concerned. Mr. Strothern had his honey house, together with a lot of hives, barrels, &c., burned; supposed to be spontaneous combustion. Loss about $700. Mr. Shaw had a grizzly bear commence destroying his apiary; he finally shot the old fellow; he weighed 800 lbs. ELISHA GALLUP.

Brandywine Summit, Pa., Oct. 22, 1879.

I have received the 1st premium and diploma at the Chester County Fair. Also the 1st premium and medal for finest exhibit of honey and bees and bee fixtures or apiarian supplies at Delaware County Fair. It has been a bad "fall" for bees here. We have had no rain for two months until to-night.

J. T. & J. G. WILLIAMSON.

Conventions.

Indiana State Convention.

Quite a number of bee-keepers met at Indianapolis, Ind., October 3, 1879. The meeting was called to order at 10 a. m., by C. S. Schofield, who briefly stated that the object of the meeting was to organize an Association of the bee-keepers of the State of Indiana, with the view of holding a convention during the coming winter, and as often in the future as the Associatioh may see fit.

Mr. A. G. Hill, ot Kendallville, was chosen temporary Chairman with F. L. Dougherty as Secretary, when on motion it was decided to proceed to a permanent organization. Mr. Hill was proposed for President, but he declined on account of pressing business, when Mr. C. S. Schofield, of Indianapolis, was chosen by acclamation. It was then decided to elect two Vice Presidents, one in the northern and one in the southern part of the State—the National Road to be the dividing line. A. G. Hill was elected for the northern, and J. M. Brooks for the southern district. F. L. Dougherty was made Secretary and the Rev. M. Mahin, of Logansport, Treasurer of the Association.

On motion, the President appointed a commlttee of three for the purpose of drafting a Constitution and By-laws, to be adopted at the next regular meeting. The committee was also instructed to prepare a programme for that occasion. The President and Secretary were authorized to procure a suitable room in which to hold the next meeting. Mr. C. F. Muth, of Cincinnati, O., was present and gave his views on "wintering" and the details of the work before the convention, etc. A vote of thanks was tendered him and he was cordially invited to be present at the next meeting. A vote of thanks was also tendered the State Board of Agriculture and the press for favors.

The Secretary was instructed to send each of the Bee Journals a copy of the proceedings with the request to notice. Adjourned to meet at Indianapolis Tuesday, Jan, 13th, 1880, at 9 a. m. F. L. DOUGHERTY, *Sec.*

North American Bee-Keepers' Society

The Tenth Annual Convention, held in Chicago, Oct. 21, 1879, was called to order at 10 A. M., President Thomas G. Newman in the chair.

The President delivered his annual address as follows:

President's Address.

LADIES AND GENTLEMEN:—Since last we met, a year of toil and care has passed—a winter of disaster to our bees, and a summer of greatly decreased yield of honey. Yet we have much to be thankful for, when we compare our condition with that of our brother bee-keepers in Europe, who have not only had sad experience with foul-brood and decimated colonies, but have had to feed their bees almost the entire summer, having no yield of honey to cheer their spirits or sweeten their palates.

How to successfully winter our bees will be a subject for discussion during this meeting, and we hope some valuable information may be elicited. The honey yield though it has not been as good as it was last year, is still a very creditable one—probably much over one-half. Therefore the demand for honey will be large, not only for our own country, but also for Europe; and the prices will be correspondingly advanced. Long before next year's crop is gathered, there will probably be no honey upon the markets.

At our last meeting, it was a matter for general rejoicing that America's greatest bee-master, the Rev. L. L. Langstroth, was partially restored to health, and we all expected to greet him at this meeting, but alas for human plans, he is not only not here, but he is totally unable even to enjoy the reading of our proceedings. His old life-long malady has again laid him prostrate, and the bony fingers of poverty are loudly knocking on the window-panes of his residence. In June the Wisconsin Association made an appeal to bee-keepers in his behalf and the AMERICAN BEE JOURNAL started a subscription list; from the latter $100 have been realized and sent to his relief. We hope that this Association will give this matter the attention that it deserves.

The subjects under discussion at this meeting are varied and momentous. We hope that all the discussions will be carried on in a spirit of candor and fairness—that no unkind word nor harsh expression may mar our proceedings—and that harmony may characterize the deliberations of this assembly. Remember that we speak not only to those who are present, but also to the thousands who await with almost breathless anxiety the published report of our proceedings. Should any be so thoughtless as to come here to ventilate their pique or jealously or to serve their own selfish ends, it will be the duty of this Convention to kindly but firmly inform them that "no entering wedge of discord" will be tolerated, even for a moment.

As to the matter of adulteration of honey, that is in a great measure corrected—the price of honey is now so low that it is no longer profitable to adulterate it, and therefore it is, in a large measure, now "among the things that were." Honey is one of the purest and most delicious of sweets, and is taking the place of the adulterated syrups, especially is this so in the pure extracted form. Extracted honey will soon, we think, become a staple article in the markets of the world. We were much interested in the many uses found for it in Austria and Germany; at the Honey Show in Prague one room was devoted to cakes, ginger-bread, confectionery, mead and wine made from honey. The display was very grand and attractive, the products were exceedingly tempting and palatable, and the demand for them was highly satisfactory. Many lessons are to be learned by us yet in this line.

Creating a home demand for honey was a subject greatly recommended by our last meeting. I am happy to announce that this advice has very largely been acted upon, and I think it quite safe to say that the "home demand" has been more than doubled during the past year.

Many of our Vice Presidents have nobly attended to their duties in the different States, Territories and Provinces. They have used commendable zeal in getting the attention of Managers of State, County and District Fairs, and having prizes for honey and bees inserted in many of the Premium Lists. To many of them this Association should give the encouraging "Well Done;" and we hope that those Vice Presidents who have so nobly spent their time, money and energy to further the interests of their constituents may be re-elected, to still further "help on the good work" during the coming year.

The Executive Committee thought best to begin slow, and so have only gotten up Diplomas for the use of Vice Presidents in awarding prizes, though the last Convention gave them discretionary powers, as to the getting up of medals, &c. Another year medals may serve a good purpose. The "Programmes" for this Convention, which you all have for use, have been produced without cost to the Society—the advertisers paying the entire expense.

We hope that this Society will perfect some plan at this session to make its power felt by the railroads whose freight tariffs discriminate against the bee-keeper by demanding double the amount charged for other merchandise, for carrying bees, honey, hives, &c. We must combine and use our united power to affect this. Individuals are powerless for such work; it takes the united efforts of large bodies to cope with such gigantic monopolies.

In conclusion, allow me to thank you for the honor conferred on me, by the last meeting in unanimously choosing me for your presiding officer. Though conscious of many short-comings, I have endeavored to serve you to the best of my ability during the past year, and now, as soon as my successor is appointed I shall have pleasure in retiring, wishing the Society a happy and prosperous future.

On motion of Mr. F. W. Chapman, Illinois, a committee of three was appointed on President's address. Chair appointed F. W. Chapman, Ill., D. A. Jones, Ontario, and Mrs. L. Harrison, Ill., said committee.

The Secretary made the following report:

In the absence of our treasurer, Mr. J. H. Nellis, I have but little to report. All our proceedings of our last annual meeting were published in full in the AMERICAN BEE JOURNAL, and are well known to you, so it would be only a loss of time to detain you on that head further than to say to those here who were not present then, that the good feeling that prevailed augured well for our future meetings, and that we feel assured that each year will add to our numbers, and the increased importance of our yearly coming together to interchange views and thus advance the interests of bee-keeping by combined action as in other pursuits. At the close of our last meeting, I gave the Treasurer the roll of members for last year and the dues. He was recently in New York, and I was told he would be here, and confidently expected to see him, and hear him read the Treasurer's report. I did not bring with me the copy I kept. We hope to have this before the close of the Convention.

Our Eastern members who are here for the first time are undoubtedly surprised, as am I, with the magnificent buildings, and distances, and wealth, and, business thrift of this city. The feature that most strikes me is the number of workingmens' houses. These houses are great safeguards. A man with a house of his own is at once a better citizen. I have heard men living in rented houses talk against the value of property, and belittle everything in the shape of real estate, improved or unimproved, but let them own small houses even, and at once they talk of progress, and inspire all they meet with cheerful views of the prosperity of the country, and you can trust them in riot or revolution to be on the right side.

The report was accepted and adopted.

The report of the Treasurer having been received, was read and accepted as follows: Received from Secretary, $48.00; paid orders on Treasurer, $18.50; balance in treasury, $29.50.

Prof. Cook suggested that reports as to the honey crop and condition of the bees in each State be called for. The following were given as such

State Reports.

C. S. Schofield, Indiana, reported the formation of a State Bee-Keepers' Association in Indiana, and extended an invitation to all bee-keepers to visit them at their next session. He reported a decrease in the honey harvest of the past season. Average ¼ of a crop.

The report of Dr. W. W. Hipolite, Vice President for Arkansas, was read, giving a discouraging account of the honey crop in his State.

C. S. Hubbard, Rochelle, Ill., reported a short crop of extracted honey.

F. W. Chapman, Morrison, Ill., reported light crop—mostly extracted.

R. R. Murphy, Fulton County, Ill., reported a quarter crop in the State at large.

Charles Dadant, Hamilton Co., Ill., reported one-third of a crop.

Dr. Matthews, Livingston Co., Ill., reported one-fourth of a crop.

Rev. Mr. Clute, Iowa City, Iowa, reported one-fourth average; about one-half an average increase in bees; condition bad.

E. D. Godfrey, Red Oak, Iowa, reports no surplus in Southwestern Iowa; bees in poor condition; crop one-third.

A. B. Cheney, Sparta Center, Mich., reported a short honey crop, and small increase.

James Heddon, Dowagiac, Mich., from 500 colonies reported 7,000 lbs.; bees increased about 200 per cent. by natural swarming; also reported experiments in wintering, both in and out of doors, with about equal results, but thinks the Italians preferable for withstanding the winters.

H. A. Burch, South Haven, Mich., reported about half a crop of honey.

T. F. Bingham, Allegan, Mich., reported about half last year's honey yield.

Mr. Darling, Indiana, reported about one-third yield of honey in his State, and bees in good condition when they had been properly taken care of.

Prof. Cook, Lansing, Mich., had to report five flourishing county societies in his State, besides one distinct and one State organization; about ½ crop of honey.

A. S. Haskins, Lawrence, Mich., reported about half usual yield of honey.

G. M. Hawley, Lincoln, Neb., reported a poor season for honey, but good for increase in bees.

A. J. King, New York city, reported a loss of one-half the bees in wintering; about one-half an average crop of honey, and about double the usual price for it. His 25 colonies in New York had done much better than those he had in New Jersey.

Dr. Parmly, New York city, reported much swarming, but poor honey yield.

Mrs. Harrison inquired if the bees in New York city obtained their honey from the candy stands, etc.

Dr. Parmly answered it was from the public and private parks and flower gardens.

D. M. Ketcham, Wayne county, N. Y., reported an increase from 50 to 115 colonies, and secured 2,300 lbs honey.

G. W. Zimmermann, Napoleon, O., reported an increase from 16 to 40 colonies by artificial swarming; two-thirds an average yield of honey through the State.

Rev. W. F. Clarke, Guelph, Ont., reported two-thirds an average yield.

D. A. Jones, Beeton, Ont., reported the best surplus yield obtained for years, mostly extracted. His crop was about 75,000 lbs, from 300 colonies in the spring.

F. F. Collins, Dallas, Tex., reported a disastrous honey season, owing to long-continued drought, though in the coast region of the State there had been more than an average. Judge Andrews had not obtained one pound of surplus from his 300 colonies.

C. Grimm, Jefferson, Wis., reported less than half an average honey crop, owing to lack of nectar secretion in basswood; from 290 colonies obtained but 4,000 lbs. extracted and 2,000 lbs. comb honey; he had obtained 115 natural swarms.

Mrs. F. A, Dunham, Wisconsin, reported a light honey yield.

A. A. Winslow, New Holstein, Wis., reported about half a crop in his locality. In northern portion of the State almost a total failure. Last swarm Oct. 16.

L. H. Pennel, LaCrosse, Wis., reported a good yield, mostly basswood and white clover.

W. P. Clement, Monticello, Wis. Honey crop good to last July. Excessive swarming, and bees not in best condition.

T. S. Bull, Valparaiso, Ind., in the spring had 145 colonies; increased to 245; obtained 8,500 lbs. honey.

Afternoon Session.

President Newman, Representative to the Bee and Honey Shows of Europe, made the following

Report of the Representative to Europe.

At the last meeting of this Society your President was appointed to represent the bee-keepers of America at the Bee and Honey Shows and Conventions of the sister societies in Europe, during the summer of this year. In accordance with this desire your President has, at his own expense, and in the interest of American bee-culture, visited three bee and honey shows in England, one in Scotland, one in Switzerland, and one in Austria. He has also visited some of the most prominent bee-masters in England, Scotland, Italy, Switzerland, Austria, Germany and France, and has been uniformly received with great enthusiasm.

As Americans generally approve the more readily the *practical* side of all questions, you are perhaps even now quite ready to ask: "Of what practical use is the knowledge obtained?" and "How can it be rendered beneficial to us?" Anticipating such questions, let me briefly answer them. For years have we been anxiously looking for some new avenue for the consumption of our large production of honey. We have looked in vain to the North, the South and the West, to furnish such a boon. The East is the only portion of Earth's surface that furnishes us any "ray of hope." And already have we astonished both the producers as well as the consumers of honey in England, by sending them 180 tons of honey in the comb, as well as hundreds of tons of extracted honey. We have also sent large shipments to the continental countries of Europe, and many of the honey producers there began to feel that we were encroaching upon their territory and trampling upon their rights. In England, the *British Bee Journal* says they were like smoked bees fully "alarmed," and began to look around "to save themselves and their belongings." They really began to feel jealous of us, and to say unkind things about American honey. The "injury," we are happy to say, was imaginary—not real! We made a thorough investigation and then made it our chief business to discuss the matter with them, endeavoring to demonstrate that not one in a thousand now are eating honey that should and would do so, were the prices demanded for it more reasonable! American honey has been transported to Europe and then sold at a profit for about one-half the prices demanded for that produced in the several countries of Europe. Heretofore it has been considered a "luxury," to be enjoyed by the rich only! but, we must use every effort to *popularize* the consumption of honey. It must be taken by the masses as one of the *necessaries* in every day life, for it is not only one of the purest and most delicious of sweets, but also one of the cheapest that Nature produces!

We labored persistently to show the apiarists of Europe this "more excellent way," and though the battle was hotly contested we are rewarded by knowing that "Victory perched upon our banners," and the position we took is now fully endorsed by hundreds of the best and most enterprising of their apiarists. The *British Bee Journal*, some time since said: "We owe it to American enterprise that the honey market question has been so thoroughly investigated" and then that *Journal* generously added: "We think it right to acknowledge that the American honey merchants have helped us out of what was a sore difficulty, viz: the means of disposing of our honey. They have proved that if in salable packages, it will find its way into our grocers' shops, and thence into family cupboards for every-day use."

Not only did the prominent British bee-keepers endorse this position, but the British Bee-Keepers' Association presented us with its silver medal in token of its appreciation of our services as well as a souvenir of our visit. The Caledonian Apiarian Society also presented us with its silver medal not only in honor of our visit to its annual session, but also as it said in recognition of the services we had "rendered to the science of bee-culture"; they also treated us with unbounded unthusiasm. The Swiss "Societie d'Apiculture" heartily approved of our position and enthusiastically ratified it with a hearty "three times three" cheering lustily for American enterprize and practical apiarian methods. Hundreds of individual bee-keepers, all over Europe, also fully endorsed our position and received us with the greatest cordiality. Though it has cost us many hundreds of dollars to make the trip, we are constrained to believe that the interests of honey producers throughout the world, have been greatly enhanced thereby. We feel quite confident that the effects will be manifest in the years that are to come.

It is as true in Europe as in America that we must have broad business-like views, unattended with prejudice, on all points pertaining to the consumption of honey—for consumption is the end and purpose of all production! Two cardinal points present themselves, and these are *economical production* and *general consumption!* It is quite essential that these should be "talked up," for thoughts beget words and words produce actions with persons that are in earnest! "A long pull, a strong pull, and a pull all together" will produce wonders in this direction, and it is certainly worth while for bee-culturists of the whole world to see what wonders may be produced by *united action!* I have put this question to thousands in Europe, and now ask the intelligent and progressive apiarists of America—"Shall we try it?"

It appears to me that it needs no argument to prove that no good can possibly accrue to the honey interests of the world, by the bee-keepers of one locality or country talking against the honey produced in another locality or country. All honey is *not* alike, either in color or flavor—but all is good for some purpose or other, either the table or the manufactory. Our aim should be to elevate the science, not to underrate our fellow laborers—to excel in bee-management, not to undersell our neighbors! We should agree upon a price that will pay for production and at the same time not retard consumption, and then all should be guided by this, and thus aid in establishing a regular market price for honey, the same as is obtained for wheat, corn and oats.

America stands first in the world for honey production, as well as for scientific management and improved implements for the apiary. In Great Britain this year all crops are a failure. On the Continent generally the crops are very light. To America therefore belongs the humane work of very largely feeding the world not only with meat and all kinds of field produce, but also to sweeten it with her excellent honey.

So far as circumstances have permitted, I have endeavored everywhere to cultivate broad views concerning the production and consumption of honey, and to establish a fraternal bond of union among the bee-culturists of the world. How far I have been successful in this task I shall leave others to say, and time to prove. The unbounded enthusiasm with which I have been greeted everywhere will be remembered as long as reason holds her sway. Of course I am well aware that this was intended in a large measure for the great body of apiarists in America whom I had the honor to represent, and I know you will all accept the fraternal and cordial welcome of your Representative as a gratifying evidence of the friendly feeling which exists in Europe towards the hosts of progressive bee-culturists of America, and a positive proof that in the great work before us, Europe will stand side by side with America, and take its part in the onward, sweeping tide of destiny.

In submitting this report your Representative trusts that it will meet with your entire approbation.

Rev. W. F. Clarke, Ontario, moved the report be referred to a committee of three. Carried.

The Convention appointed Rev. W. F. Clarke, Ontario; Prof. A. J. Cook, Michigan, and Rev. O. Clute, Iowa, said committee.

The Convention appointed the following committee for the nomination of officers for the ensuing year: Rev. O. Clute, Iowa; T. F. Bingham, Michigan; D. A. Jones, Ontario; Mrs. F. A. Dunham, Wis., and A. J. King, New York city.

Prof. A. J. Cook, Michigan Agricultural College read, and with diagrams illustrated the following, on

The Tongue of the Honey Bee.

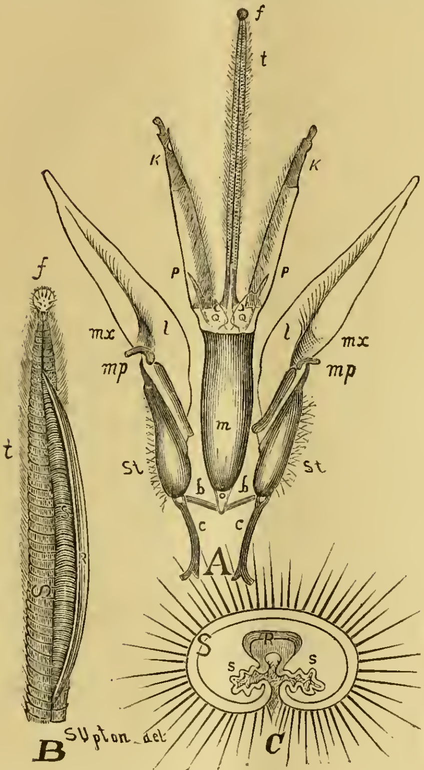
It gives me great pleasure to meet so many of the intelligent, hard-working and successful bee-keepers of our country. I am always proud to be associated with those whose earnest thought and hard labor have added to the productions, and so to the wealth and happiness of our people.

The Apostle James says of the human tongue: "that it is a little member and boasteth great things." The tongue of the honey-bee is much smaller, but never boasteth, except in the good way of grand accomplishment.

The bee is, and has long been, of great importance to the commercial world, and this, together with the fascination inseparable from its study, have led many of the ablest scientists to carefully investigate its structure and habits. Yet I know not if there exists to-day an accurate description of the bee's tongue, and the method by which the insect procures its food.

The literature of the subject abounds in confusion and inaccuracy. The most learned scientists, those usually the most careful and accurate, like Reaumur, Newport, and Carpenter, give voice to palpable errors. Even the last edition of the Encyclopædia Britannica gives further life to these old erroneous views. Let us give brief attention to some of these descriptions.

Hogg says the bee's tongue is cylindrical; Kirby, Spence and Neighbour state that it is flat; Reaumur and Chambers that it is between the two. Reaumur, Newport, Kirby, Spence, Carpenter, Shuckard, Bevan, and Hunter all state that the tongue is solid, and that the honey is sopped up, or taken through a tube, formed by the close approximation of the maxillæ labium, and labial palpi. Newport speaks of a hairy sheath along the under side of the basal two-thirds of the organ. Neighbour says there is a gutter throughout the entire length of the tongue. While Swammerdam, Lamarck, Burmeister, Wildman and Munn claim that the organ is tubular. Newport and Carpenter assert that the bee's tongue is muscular, which is denied by Cuvier, Reaumur and Chambers.



That bees lap the nectar is affirmed by Reaumur, Newport, Kirby and Spence, Savigny, Carpenter, Bevan and Hunter; while Swammerdam, Wildman, Lamarck, Burmeister, Munn and Neighbour claim that the bees take liquids by suction.

Amid these conflicting views let us see if we may find the truth. To do this we must examine closely the structure of the organ, and also watch the insect as it is taking its fill of honey or some other liquid.

In the April number of the Journal of the Cincinnati Society of Natural History, for 1878, Mr. V. T. Chambers, an able entomologist of Covington, Kentucky, published a very admirable paper upon this subject. In the American Quarterly Microscopical Journal for 1879, p. 287, the subject was again presented in a beautifully illustrated article by Mr. J. D. Hyatt, President of the New York Microscopical Society. I learn that Wolff has published a fully illustrated memoir on the anatomy of the honey-bee which, I regret to say, I have not seen. From Messrs. Chambers and Hyatt's papers, and my own researches and observations, I am able to present the following facts:

The mouth-parts of the honey-bee brought into requisition when the insect takes a liquid into its pharynx, are the maxillæ and the labium.

The maxillæ or second jaws (see m x in Fig. A) are situated each side of the labium. They are hinged to the head by the strong cardos (see c, c in Fig. A) which are chitinous rods. Extending forward from the cardo is the more flattened stipes (see st, st in Fig. A) which is also mainly chitinous. From the stipes projects the triangular, deeply grooved lacinia (see l, l in Fig. A). This is more membranous, but it is strengthened by a ridge of chitine which extends to the apex. At the base the very rudimentary maxillary palpi (see mp, mp in Fig. A) are visible, while scattering hairs project from the inner margins. When the maxillæ are brought close together a tube is formed, which is continued by aid of a colorless membrane to the opening into the pharynx. This opening is beneath the labium and between the mandibles. The colorless membrane is continuous with the epipharynx. The muscles which move the maxillæ are attached mainly to the cardo and stipes.

The labium or lower lip of the worker honey-bee is from twenty-three to twenty-seven hundredths of an inch long. It consists of a central portion, and two pairs of appendages, the paraglossæ (see P, P in Fig. A) and the labial palpi (see k, k in Fig A). The central portion is divided into a basal two-sevenths, or mentum (see m in Fig. A) and the terminal five-sevenths or ligula (see t in Fig A & B). The mentum is about seven-hundredths of an inch long. It is hinged to the sub-mentum (see o in Fig. A) which in turn is hinged to the maxillæ by two chitinous rods (see b, b in Fig. A). These rods permit free motion, and to them are attached muscles, which in part affect the movements of the labium. The mentum is a flattened cylinder, the floor and sides of which are thick and opaque, because of the abundance of chitine contained in their structure. While lining this chitinous gutter and completing the tube is a thin colorless membrane, which is but the anterior prolongation of the pharynx. There are also abundant muscles within the mentum which extend even for a short distance along the sides of the base of the tongue. These not only affect the motion of the whole labium ,but also protrude and retract the ligula or tongue.

The ligula or tongue (Fig. A & B, t) extends from the anterior extremity of the mentum. It consists of a sheath (Fig. 1, s) which appears annulated from the many rows of yellowish hairs. When not distended the sheath, as seen in cross-section (Fig. C) is kidney-shaped. It has a slit (Fig. C, h) along the under surface, from the base to very near the end. In some specimens the slit seems to reach quite to the end. Within the sheath is a small colored, triangular rod, (Fig. C, R) darker than the sheath, which except for a slit (Fig. C, h) on its under surface, would form a tube (Fig. C, R); in fact the sides of the rod along the slit can be brought insuch close contact as virtually to form a tube. Fine hairs project from the walls either side the slit (Fig. C, h) into the tube, which doubtless aid in making the tube more perfect. Along the back of the rod is a conspicuous layer which Mr. Hyatt asserts is muscular. If this be so we can readily see how its action would spread the walls and open the slit. The rod projects beyond the sheath, as an imperfect funnel, the "button" of Reaumur, (Fig. A & B, f). The wanting section of the funnel harmonizes with the slit in the rod. Near the end, the rod seems firmly attached to the sheath. Any attempt to draw the rod from this position is quite certain to rupture the sheath. The rod when extended projects from sixteen to eighteen-hundredths of an inch beyond the mentum. At the base the rod is colorless, and its tube connects above with the membranous sack next to be described, and through this with the tube of the mentum and with the pharynx.

Attached to the edges of the sheath, next to the slit, and possibly as Mr. Chambers thinks, entirely lining the latter, and also to the corresponding edges of the tubular rod is a thin membrane (Fig. C, s). Mr. Chambers thinks this passes over the slit in the rod, making the tube of the latter complete. I have reasons to think he is mistaken, as will appear in the sequel. When not distended this membrane lies in folds (Fig. C, s); but when distended it with the rod pushes out of the sheath, so as to form with the latter a large tubular sack (Fig. B S, s) with the tubular rod (Fig. C, R) along the surface opposite the sheath. At the base this sack has a chitinous support (Fig. A, Q Q), and connects through the tube of the mentum with the pharynx, and receives the tube of the rod. It extends nearly if not quite to the end of the sheath, certainly as far as the slit in the latter extends, and is, anteriorly, imperforate.

The labial palpi (Fig. A, k ,k.) like the maxillæ, are deeply grooved, and when brought close together form a tube which also has a membranous connection with the mouth opening into the pharynx.

The paraglossæ are short, leaf-like organs (Fig. A, P, P) with a hollow membranous base, which also connects with the tube of the mentum and the sack of the ligula.

When not in use the ligula, with the labial palpi and maxillæ all double back under the head, and the tongue is so retracted that it extends no further than the labial palpi. This shortening of the ligula seems to be effected by drawing the more membranous and less hairy base into the mentum.

HOW DO BEES TAKE LIQUIDS INTO THEIR STOMACHS?

This question, as we have seen, has received various answers. Some have thought that the nectar was drawn through a tube formed by the approximation of the ligula, the palpi and the maxillæ. Others that suction was the force and the tongue the tube. Still others have believed that the nectar was lapped up by the bees. I hope to be able to show you that all are right.

Look at the bee through a good lens (I have used Toll's one-half inch) while sipping honey containing grains of solid matter, and the fine particles will often be seen to ascend through the tube formed by bringing the maxillæ close together. We have already seen how this liquid passes to the mouth and through this into the pharynx. Or we can color some rather thin honey or syrup by aniline (I have found deep red to be the best), and while the bee is sipping this colored liquid, which it does as eagerly as though the poisonous aniline were not present, cut off its head, which, with a pair of dissecting scissors is done in an instant. Examination plainly shows the red track along the channeled maxillæ and palpi, even to the mouth, which clearly reveals the path of the liquid. These conduits are much the larger approach to the pharynx; thus we see why bees take honey so fast when they can get freely at a large quantity, and why a few days of a good basswood harvest are so fruitful.

Bees as surely take honey through the triangular rod, which is enclosed within the sheath. I have proved this in several ways as follows:

I have placed honey in fine glass tubes and behind fine wire gauze, so that the bees could just reach it with the funnel at the end of the rod. So long as they could reach it with the funnel so long would it disappear. I have held the bee in my hand, by grasping the wings, while observing it with a good lens. I would gradually withdraw it from the drop of honey, which it would sip so long as the drop was within reach of the funnel. I have in such cases seen the red axis when the bee was sipping colored syrup. Subsequent examination by dissection revealed the red liquid still in the tube of the rod, clearly showing its course in passing to the pharynx. If we place the tongue with a drop of water on a glass slide and cover with a thin glass, and then look at it through the compound microscope, with a magnifying power of eighty diameters, we can readily see the liquid pass back and forth in the tube as we press with a pencil on the thin glass cover. As Mr. Chambers states, this tube at the base of the funnel is only one five-hundredth of an inch in diameter. We now understand why bees are so long in loading their stomachs, when gathering from small tubular flowers, as then this minute tube is the only avenue by which the bee secures the nectar. We can also well understand why they gather so much faster from some flowers than from others. In the one case they secure the liquid sweet through both the channels above described, in the other, when the honey is scarce or deep down in small tubular flowers, they can only use this microscopic tube.

We also note the admirable construction of the tongue, which permits it to probe these tiny flowers, and also see the advantage of even a little additional length in this important and wonderful organ.

I also believe that bees lap up the honey. If we spread a thin layer of honey on a glass, and permit the bees to visit it, we shall see the bees wipe it up with their ligulæ. Fine drops disappear even though the funnel does not touch them. From this observation, as well as the structure of the organ—if I am right in believing that the slit in the rod opens on the surface—we can but conclude that the slit in the rod, no less than the funnel, may be the door whereby liquids pass to the tube. If Mr. Hyatt is right in thinking that the dorsal band of the rod is muscular, we can readily see from its position and the form of the rod, how the slit might be opened. If the liquid is very thick the bees are seen frequently to retract the ligula and then extend it, as if to clear the organ by scraping it between the maxillæ and palpi.

While sipping honey the bee performs a kind of respiratory movement with the abdomen. This shows that the force of suction comes partly, if not wholly, from the stomach, which organ is situated in the abdominal cavity. The tongue is also retracted and extended rythmically while the bee is sipping. The tip passes alternately back and forth from its greatest distance from the mentum to the end of the palpi. This movement may be something analogous to swallowing.

I am not certain as to the function of the membranous sack. I have found that if I killed a bee by compressing its thorax, very soon after it commenced to sip the colored liquid, that the latter was always in the stomach but not in the sack. If I waited longer I found the sack also partially filled. This leads me to conclude that it acts as a storehouse, enabling the bee to carry a load beyond the capacity of its stomach. It also appears glandular, when distended, so possibly it secretes an animal juice or ferment which aids in changing cane sugar into glucose or grape sugar; for we find upon analysis that pure cane sugar after passing through the stomach of the bee has partially undergone this transformation.

After the bees have sipped the colored liquid I find invariably that the tip of the tongue—the small portion where the slit in the sheath seems obscure, and where the rod seems more firmly attached to the sheath, is highly colored, as though full of liquid. Possibly the sack does not extend into this portion and the tube may be larger in this part. By a little pressure the liquid is made to pass out of this portion of the tube, either through the funnel or slit, perhaps both.

LENGTH OF TONGUE IN DIFFERENT RACES.

I have measured hundreds of tongues, under the microscope, with the camera lucida, and have been much interested to observe the wondrous uniformity in length where the bees were from the same colony or from the same apiary, especially if close breeding had been practiced. Tongue after tongue would show a variation of less than .025 of an inch. I have found the length of the American black bee's tongue to average about .24 of an inch in length, from the base of the mentum to the tip of the ligula. American-bred Italian bees I have found, when measured by the same scale, to have tongues .02 of an inch longer. Some bees, said to be Cyprians, but closely resembling our black bees, except that the down on the thorax was a little more yellow, I have found to possess tongues a little shorter than those of our American Italians, though the average is but very little less. I have examined bees' tongues from workers reared from two different imported Italian queens, and found that in both cases they exceeded in length those of our American-bred bees, though the difference is very slight.

In 1878 I measured the tongues of some bees, sent me for Cyprians. The bees were very yellow and beautiful. I found them to possess the longest tongues I have ever met, but there was very great variation. I had but few bees, and sent for more, which never came. I had arranged the present season for bees of the various European races, and had been promised specimens; but greatly to my regret and disappointment, the bees have failed to come, so I have to make this but a partial report.

That the added length is of practical importance I have proved as follows: Honey in a vessel covered with fine gauze was placed before Italians till they ceased to eat, because the honey was beyond reach. The vessel was then placed before black bees, which failed to reach the fluid. The vessel was then filled and given first to the black bees which worked till the liquid was inaccessible, when it was placed before Italians. These would invarialy commence to sip the honey. Again, a box one-half inch deep, without top or bottom, was covered with fine gauze having fifteen meshes to the inch. A glass was then placed in the box so inclined that while one end rested against the gauze the other was one-half inch from it. The glass was thinly spread with honey on the side next the gauze. This was placed in a hive of Italians when the glass was cleaned of honey for a distance of twenty-four meshes from the edge where the glass rested on the gauze. The black bees could only reach, and only cleaned, for nineteen meshes. Many trials gave the same result. This then shows why Italians can gather, and often do collect from flowers which fail utterly to attract the black bees. The nectar is beyond their reach.

CONCLUSIONS.

It would seem from the above that American-bred Italian bees have shorter tongues than those direct from Italy. It seems very probable that "Natural Selection," the very law which raised the Italians to their position of superiority, also gave to them their longer tongues. Shut up in their mountain home, a mere isolated basin, where competition must have been very excessive, nature took advantage of every favorable variation, and developed those striking excellences peculiar to the Italian. During these ages there was no kindly bee-master possessed of the intelligence sufficient to nurse the weaklings, nor any "Dollar Queen business" to stimulate indiscriminate breeding, and the weak died victims to starvation. And so we are indebted to the stern, inexorable law of nature for the incomparable breeding which wrought out such admirable results in far-famed Liguria. Unquestionably the crowded apiaries of Austria and Germany have heightened the "struggle for life," and this had a similar tendency to develop superior excellence in the European black bees. It is more than probable that the German bees of crowded Europe have longer tongues and are generally superior to the same in America, where they have long been favored with broad floral areas and comparative absence of competition. I should expect that this very law might have developed varieties of the black race which are superior to others of the same race. It is more than possible that "survival of the fittest" explains the origin of the superior varieties which are said to exist in various provinces of Europe. For the same reason we should surely expect superior excellence in the Cyprian bees. Crowded as they have been for long years or ages, in their small island home, the principal of "survival of the fittest" must have been working powerfully to weed out the inferior and to preserve and make stronger the superior. And so the great poet has well said: "Sweet are the uses of adversity."

PRACTICAL CONCLUSIONS.

From the above considerations it seems obvious, that would we perpetuate the excellencies given us by the skilful breeding of nature, though we may not destroy all the feeble, as nature has done, we must assuredly study and observe so closely, that we shall know of a surety which are our very superior queens, and be even more careful to breed from no other. Whether care or carelessness will be most promoted by our present system I leave for you to say. But I do wish that we might have at least a few breeders with time, means, caution, skill and patience, who would work with earnest zeal to not only keep all the excellence we now have, but to augment this excellence as I am sure it may be augmented.

But if our cheap queen system is to continue, then, surely, we may well stimulate frequent importations from Italy and Cyprus, and thus hope to compensate in part for what will be lost by hasty, careless and indiscriminate breeding. A. J. Cook.

Lansing, Mich.

The Rev. O. Clute remarked that he deemed the subject of great importance, and that the valuable experiments of Prof. Cook called for more than the usual vote of thanks. He therefore moved that a *special* vote of thanks be tendered to Prof. Cook for his valuable essay. Carried.

James Heddon, Michigan, asked Prof. Cook if other able essays could not be given, especially on the comparative power of the wings in carrying honey from long distances.

Prof. Cook answered he had often thought of doing so, but so far his attention had been wholly taken up by the tongue experiments. He had often seen Italians, but never black bees on red clover.

A. A. Winslow, Wis., stated he had often seen black bees on red clover.

Prof. Cook thought bumble bees may have torn open the honey tubes, and the black bees followed them.

Mr. Winslow explained the clover was light; but he had never seen them on rank clover.

J. Y. Detwiler, O., inquired whether dark or yellow Italians had the longest tongues.

Prof. Cook. The darker.

Rev. O. Clute, Iowa, inquired if the yellow as well as the dark had been bred for the best qualities.

Prof. Cook thought the lighter had been bred more for color than for other qualities.

The President read the following paper on

Patents, as applied to Implements of the Apiary.

The subject, "Patents, as applied to Implements of the Apiary," might have been stated as applied to all vocations as well. The principle remains the same, with this difference : the whole system of apicultural appliances being made up generally of insignificant items, many so small individually that, as to the gradual improvements therein we often hesitate and find ourselves asking the question, "Does it pay to patent such inventions ?"

What constitutes ground for a patent is, as the statute requires, newness and novelty among other qualifications. Novelty consists in producing a new substance, or an old one in a new way, by new machinery, or a new combination of the parts of an old one operating in a peculiar, better, cheaper, or quicker method ; a new mechanical employment of principles already known. But when the diligent strike upon a principle, even by mere accident, which principle leaves nothing more to be desired in that regard as an invention, such should be secured by patent claiming the essential feature, as no additional claim for improvement in that direction could be held subsequent thereto, without liability for infringement upon the original.

By an incentive to inventors, the apiary in common with some other known industries, has within the last few years achieved grand results ; but should a genius desire to patent each successive step in his advancement as brought out by diligent application, shoe-leather worn out upon the tiles of the patent office or by interviewing counsel, would be a loss greater than could be gained by patenting many simple appliances of ideas suggested by fertile brains, when often the improvement can be as easily evaded by like ingenuity on the part of others, or by infringement without fear of detection.

The indifferently inclined pay tribute when they go on carelessly, allowing the wide-awakes to do their thinking, which, by the "law of compensation," allows the indolent the only alternative to submit to the more successful and enthusiastic competitors. Excelsior !—not conservatism—should be the aim of every apiarist, and whether this is best conserved by "patent," or upon direct business principles, is a matter to be determined by the virtue which respectively in them lies. The possession of a *white* elephant is the reflex or ghost of an ingenious apiarist, who continually is haunted by a desire to patent new ideas as developed in his intercourse with the bees, which, after a calm deliberation, frequently settles the point in his mind as to the course to pursue for a pecuniary profit or loss, by prosecuting more diligently than ever his regular vocation.

Had the movable-comb frame or the movable frame hive rested at that, without disputing about the size or shape—which at best is now most conflicting—a competence would have inured of which the conceded honorable claimant is now so sorely in need.

The honey extractor, by centrifugal force, is the principle by which it comes in contact with other known prior inventions, for instance in the refining of sugars, by which the syrup is eliminated from the crystals ; but a valid claim might have been set up by certain combinations, whereby an extraordinary remuneration would have followed.

Comb foundation—if, instead of the machine of whatever design to produce this article, the originator had obtained exclusive control in the use of said material, as artificially made for use in bee-culture, the royalty emanating thence would be of enormous magnitude.

The bee-smoker, consisting of a bellows and stove, by which the "direct-draft" patent settles it as the simplest and best, and which, upon examination, confirms all claimed for it, for it is impossible with less material or fewer elements to support the peculiar combustion necessary, for which it was designed.

The honey knife is an example of the general rule of modification ; but how many would ever think of obtaining a patent thereon ? The bevel edge as constructed, as offering the least resistance in uncapping combs, makes it *par excellence* the best. Thus, while millions of knives are constructed for their respective uses (which are legion), this modification for the apiarist insures the "millions in it" for the would-be patentee, which "patent applied for," if not granted, ought to be.

Unlike the long ages past, where the apiarian industry remained so long dormant that, contented with the then existing evils, our fathers were prone to look no further for improvements in bee-culture ; the present generation, on the contrary, promises to solve many intricate problems, and will not rest short of the goal. For instance, fertilization in confinement, and wintering bees successfully upon summer stands, will, from present indications, be thoroughly established, and that, too, within our day and generation. May he who accomplishes either fact have a generous benefit accrue therefrom. for being able to produce a desired result, within immediate control, and under ordinary climatic conditions.

No fawning sentiment, nor creed, nor cant, nor sophistry, nor hypocrisy, should be allowed to warp the judgment as to our particular apiarian patents, which ought in justice to rest intrinsically upon what should be designed for them, "their own bottom ;" nor should the caviler be allowed to unjustly arraign a system which our fathers and a majority of those now living deem as most wise, by affording "the greatest good to the greatest number." The business of inventions or patents is like any other legitimate business, but it is rarely managed with that tact that ordinary business requires, because poverty too often finds lodgment with genius ; though poverty be no particular discredit, it is a decided inconvenience ; to add to this the invidious distinctions making patents as applied to the apiary unenviable, which, contrary to many other pursuits in life, some apiarists assail, as if all original, hard-earned ideas should be given gratuitously to the public, when often they themselves inconsistently patent their own expressions of others' ideas, or description of others' inventions, by a mere modification of the patent law—by copyrighting! What jewels!

Let sincerity and plain-dealing distinguish the apiarist; let the law of supply and demand practically govern their relations; let not culture assimilate with the objections of cavilers whose minds are not sufficiently expanded and cultivated to comprehend why men cannot act from other than selfish motives, clear through to the end of the chapter, especially when it relates to "Patents as applied to Implements of the Apiary." ADOLPHUS E. WENZEL.

Callicoon, Sullivan Co., N. Y.

The Secretary read the following paper, entitled

Wintering Bees on Summer Stands.

Among the variety of subjects pertaining to the science of apiculture, I think all will concede that of wintering, among the most important, if not paramount to all others.

After the disastrous winter of 1871, this subject was freely discussed at several Conventions both National and State; the loss being attributed to different causes, for which new methods were advocated as giving promise of being more successful.

In the aggregate of loss the apiarists of the United States suffered another "Waterloo" during last winter, and the questions for consideration on this subject are: the cause of, and remedies against such losses in the future. In this discussion four points claim our attention:

1st. Location of the Apiary.
2d. Preparation.
3d. Winter.
4th. Examination at close of winter.

1st. For a location, if available, I should prefer a hill-side having a northwestern exposure, as this would not only give protection against high winds, but also afford warmth sufficient to give the bees purifying flights when other locations would not. The ground should at least be sloping so as to give ample drainage; and where natural protection against high winds is not afforded, a wind-break should be made. I consider the saving of bees thereby, even in an apiary of fifty colonies, would offset the expense of a high fence, or setting a hedge.

2d. Preparation includes the time between August and November. The central combs in the hive should be examined in August, and those filled with honey more than one-third their depth from top-bar, (which is more apt to be the case with the Italians than blacks), extracted. This will give the queen an opportunity of occupying the combs with eggs, which will not only secure an abundance of young bees for wintering, but afford empty cells for the cluster, giving a warm brood-nest. I have often heard the following remark by persons losing bees: "Well, I had no idea of losing that colony of bees, the hive was so heavy with honey!"

Our experience is that hives having enough stores to carry them through until they fly freely in spring (and then fed until the flowers afford the supply), not only winter better, but give the largest swarms and the most surplus honey.

Old queens should be removed at this time. We have occasionally retained a queen during her fourth year, but as a rule do not more than three, and I think better results are obtained in an apiary worked for surplus honey, if a majority of the queens are superseded every thirty months. As soon as honey gathering ceases, the hive should be examined as to sufficiency of stores for wintering; combs of honey being supplied to the needy from those having an excess. The brood-nest should be in centre combs, and passage ways for the bees made through them. These are quickly made by pressing the claw end of a tack hammer through the comb up to half the length of the handle, turning it with the hand as it goes. This presses the wax down firm all around so that the bees are not apt to draw out the comb. These passage ways are made in the central combs below the sealed honey. Packing the hives should be done before hard freezing occurs; otherwise the full benefit of same is not secured. We pack in October.

Our attention was first called to the necessity of packing in the spring of 1869. The preceeding winter was noted for extremes of temperature, going as low in Western Pennsylvania as 20° below zero. After such cold weather I noticed water dripping from bottom-board, or ice clogging the entrance of the hive; and upon examination of hives in which the bees died, found the combs mouldy, also bees between ranges of combs away from the main cluster on either side, showing that the bees died at different times. The cluster of bees expands or contracts as the temperature in the hive rises or falls, so that where no more protection than the wall of the hive is given, there is danger of bees perishing away from main cluster, when a quick fall of temperature occurs. In the fall of 1869 we packed our hives filling the covers with straw, leaving off honey boards; and having a few double-wall hives, packed them between walls. The result of the experiment was, the bees were in good condition the following spring, the combs and inside of hive being dry and free from mould. With us this decided the question as to packing hives, and for this purpose we use cut wheat straw and chaff. An acquaintance of ours packs successfully with sawdust, and our opinion is that when thoroughly dried it is equal if not superior to chaff. I pack all around the brood chamber, between the walls, leaving on top surplus honey case, the bottom of which is covered with old carpet or burlap and filled with the packing, the ventilators in ends of cap being left open, and entrance to hive contracted. I have packed bees in single wall hives for different persons with good results, by placing the hive in a box, the dimensions of which were several inches larger than the hive so as to give room for the packing.

3d. As soon as the bees are confined to the hive place a protector on the alighting board to exclude snow and wind from the entrance. I examine the entrance two or three times a month, and all dead bees are brushed into a basket with a quill feather and carried away from the apiary. Should many be found on the bottom-board, they are removed with a rake made of heavy wire, using a piece about thirty inches long, one end of which is bent over three inches at right angles and hammered about three-eighths of an inch wide. If after long confinement to the hive I discover signs of dysentery, I place a small piece of sponge saturated with Bromo Chloralum in the entrance and treat any soiling about entrance or bottom-board with a solution of same. As snow falls it is packed around the hives, shoveling from between rows, this generally leaves the ground free from snow in front of the hives when warm enough for the bees to fly. When such an opportunity is afforded after long confinement, the protectors are removed from the entrance, also covers removed at times to allow the sun's rays directly on brood-chamber, thus lengthening time of flight. I have also placed litter of straw in front of hives. The more quiet bees are kept, after going into winter quarters, the smaller will be the consumption of honey and loss of bees; so that excepting these occasional purifying flights, they are not disturbed, care being taken never to jar the hives when working around them.

4th. As soon as the bees fly freely in spring the hives should be examined and all queenless colonies united with weak one, combs exchanged between those having an abundance of stores, and those needing them, colonies that have suffered from dysentery, the combs and bees are transferred to a clean hive giving them a comb of sealed brood from a healthy colony, at same time, if much reduced in numbers. This soon affords healthy bees, and may be the means of saving them. The hive from which the bees have been removed is scraped and treated to a solution of Bromo Chloralum.

In Western New York the bees went into winter quarters about the 1st of December, and were confined to the hive until the 9th of March. In all our experience in wintering bees, we never suffered so small a loss as during that time. They had good flights on the 9th and 10th of March, the hives being unusually populous. It became cold on the 11th, continuing so as to keep the bees confined to the hives another month. Had they been afforded flights at intervals of a week or 10 days succeeding their flights on the 9th and 10th of March, or had they been confined to the hive without any flight from 1st of December up to the 10th of April, my opinion is, there would not have been such a heavy loss of bees. I do not remember of more than two colonies being affected before the flight in March. A week afterwards the bees showed great uneasiness, and in ten days they were soiling the entrance, their power of retention was weakened, and with distended abdomens they sallied out only to perish in the chilly air. This state of things continued until the 10th of April, when good flights were afforded. But how changed the condition of the bees since their March flights; comparatively few had increased in numbers, the majority having weakened and a number dead.

In conclusion I would say that with my experience in wintering bees on their summer stands, I am more successful when the following conditions are obtained from preparation or favorable conditions of temperature:

1. A prolific queen and an abundance of bees hatching in August and September.
2. Passage ways through the combs for the bees, and empty cells on central combs for the cluster.
3. Properly packed around and over the brood-chamber with ventillation at ends of cap and protection at entrance of hive.
4. That with the exception of an occasional purifying flight the bees are kept as quiet as possible.
5. That after months of confinement to the hive, the bees should have several flights at intervals of a few days, in order to preserve a healthy condition of the feces, thereby insuring the apiarist against loss by disease.

J. E. Moore.

Byron, N. Y.

J. E. Hunter, Iowa, after four years' experience, is satisfied that cellar-wintering is the only safe plan.

James Heddon, Michigan, is satisfied it makes no difference whether the combs are filled with honey or empty; he would rather have old bees than young ones to winter over; he believed that the death of bees in the spring was almost wholly due to a disease called bee cholera. He had very little confidence in partial experiments. He had once fed 16 colonies of bees through winter on sugar and would believe that this had been very beneficial to them, but that he happened to have 17 other colonies in the same cellar which had received no sugar, and they came through equally well. He related several other instances in which conflicting results had been reached under the same method. He thought poisonous honey was the cause of bee cholera.

A. A. Winslow, Wisconsin, had met with much better success by packing with chaff for winter, and leaving on the summer stands.

E. D. Godfrey, Iowa, has wintered on summer stands for ten years, and has not lost a colony. His plan is to drive stakes around and within six or eight inches, then fill in with hay or straw, and cover over to keep rain out.

A. J. King, New York, thought wintering on the summer stands was fast becoming the most popular method, as much labor was involved in carrying bees in and out of doors, and that the jarring incident thereto was calculated to worry and alarm them.

Mr. Cheney, of Michigan, decidedly preferred a good dry cellar. He thought an insurance agent who would take risks on bees in Michigan, either in or out of doors, could do a good business. He would pay 50 cents a colony for packing and insuring on summer stands.

J. Lee Anderson, Illinois, wintered 130 colonies in the house, and lost only 1. His neighbors lost largely out doors.

Dr. Blanchard, Illinois, preferred wintering on summer stands, using for that purpose an outer box, first covering the hive with burlaps, then packing with cut straw; let them remain till warm weather in the spring, then take out the straw and let the outer box remain for summer shading.

A vote was then taken on the past method of wintering: Summer stands, 42; in doors, 50. In future, 50 will winter on summer stands and 52 in doors.

The Secretary then read the following paper on

Monstrosities among Bees.

The science of Apiculture has been so thoroughly studied by thousands of close observers in the past, that new discoveries in the natural history of the honey bee are now seldom made. I do not propose to offer anything entirely new on this occasion, but if I can interest you for a few moments my object shall be accomplished.

You are no doubt aware that all deformed or abnormal forms of bees are immediately cast out of the hive by the workers, and speedily perish. It is from this fact that they so often escape the observation of the busy apiarist. I was so fortunate, about a year ago, as to discover a remarkable brood just emerging from the cell. They exhibited such a variety of combinations, of both the male and worker bee, in each individual, that my first impression was that Dr. Dzierzon's theory certainly could not recover from the effect of such witnesses. The queen was a young Italian, about two months old, extra large, of fine form and light in color. The colony was a four-frame nucleus. Workers hybrids. Many of the cells had raised caps, and it was from them that the monstrosities emerged.

I will described them:

1. Perfectly formed drones, but not larger than worker.
2. Drone-abdomen and thorax, with a worker-head.
3. Worker-abdomen and thorax, with a drone-head.
4. Drone-abdomen and thorax, with one-half of the head worker-like the other drone-like.
5. Worker-abdomen and thorax, with one-half of the head worker-like, the other drone-like.
6. One-half of the head, thorax and abdomen drone-like, the other worker-like.

They were all reared in worker cells, and there were several specimens of each kind.

I find upon research that such monstrosities were observed years ago, and carefully dissected by that celebrated entomologist, Von Siebold. He found in them a combination of sexual characters in their generative organs, therefore, called hermaphrodites. Bees are conceded to be bisexual, such a thing as true hermaphrodites among them is perhaps impossible. The development of the internal organs are singularly corelated with the peculiarities of the external. In those with the worker-abdomen, he found the seminal receptacle and ovaries present, but empty. The sting with its vesicle and glands well developed. In those with the drone-abdomen, the male sexual organs were well developed, the testes containing spermatozoids, the ovarian organs, sting and poison apparatus existing in an imperfect state.

He ascribes the production of them to an imperfect fecundation of the ovum.

It has been established, beyond doubt, that the queen bee can control the sex of the egg at will. The eggs in the ovaries, contain a male sex-producing germ; to change the sex of the egg germ to female, the queen causes the egg to come in contact with the spermatozoa contained in a little sack, on one side of the oviduct. The spermatoza enter through the egg shell by minute orifices called micropyle, of which there are quite a number. If the micropyle are obstructed, no filaments can pass, therefore, the egg remains, as it left the ovary, and will hatch a drone. This is why we find drones reared in worker cells. It is not a mistake of the queen as some may suppose but from imperfect eggs; a matter over which she has no control.

Mr. Darwin says it requires several spermatozoa to impregnate the egg properly; if that be true, is it not probable that if only one should enter the egg, that it has not the power of entirely changing the male-sex producing germ and thereby we have the so-called hermaphrodite.

Chattanooga, Tenn. S. C. Dodge.

Prof. Cook stated the essay was incorrect, in that the bees did not always remove the monstrosities from the hives, he having frequently found them there.

The Convention then adjourned.

WEDNESDAY—Morning Session.

The Convention convened at 9 a. m., President Newman in the chair.

The Committee on Nomination of Officers submitted a report, which was accepted.

On motion, Prof. Cook was unanimously instructed to cast the ballot of the Convention for T. G. Newman for President, he being the nominee of the Committee, which was done.

The President elect, in a short and felicitous speech, returned thanks for the compliment conveyed.

On motion of Prof. Cook, the Secretary was instructed to cast the ballot of the Convention for the remainder of the nominees of the Committee, and the following were announced as elected for the ensuing year:

Recording Secretary—Dr. Ehrick Parmly, New York city, N. Y.
Corresponding Secretary—Rev. O. Clute, Iowa City, Iowa.
Treasurer—Mrs. Frances A. Dunham, Depere, Wis.
Vice Presidents—J. R. Lee, Huntsville, Ala.
Dr. W. Hipolite, Devall's Bluff, Ark.
C. J. Fox, San Diego, Cal.
J. L. Peabody, Denver, Col.
H. L. Jeffrey, Waterbury, Conn.
Jesse B. Watson, Vermillion. Dak.
Dr. J. M. Keyes, Iola, Fla.
Dr. J. P. H. Brown, Augusta, Ga.
E. J. Oatman, Dundee, Ill.

Rev. M. Mahin, Logansport, Ind.
E. D. Godfrey, Red Oak, Iowa.
D. P. Norton, Council Grove, Kan.
N. P. Allen, Smith's Grove, Ky.
Paul L. Viallon, Bayou Goula, La.
J. H. Spaulding, Augusta, Maine.
Mr. Valentine, Double Pipe Creek, Md.
W. W. Cary, Jr., Coleraine, Mass.
Prof. A. J. Cook, Lansing, Mich.
Rev. J. W. McNeill, Crystal Spring, Miss.
P. P. Collier, Benton City, Mo.
George M. Hawley, Lincoln, Neb.
T. B. Parker, Goldsborough, N. C.
J. L. Hubbard, Walpole, N. H.
Prof. J. Hasbrouck, Bound Brook, N. J.
A. J. King, 61 Hudson street, New York city.
C. F. Muth, Cincinnati, O.
D. A. Jones, Beeton, Ontario.
W. J. Davis, Youngsville, Pa.
S. C. Dodge. Chattanooga, Tenn,
F. F. Collins, Dallas, Tex.
Mr. Johnson, St. George, Utah.
J. W. Porter, Charlottesville, Va.
Jacob Ide, Passumsic. Vt.
Christopher Grimm, Jefferson, Wis.
E. W. Hale, Wirt C. H., West Va.
Thomas Valiquet, St. Hilaire, Quebec, Canada.

The following essay was then read, entitled:

Moving Bees.

The subject of moving bees is very important, though it has been over-looked or neglected by nearly all the writers on bee-culture. Quite often we desire to move our bees a few feet, or rods, and as it is the nature of bees after they have once marked the locality of the hive to return to that particular spot, even after the hive is moved away, it becomes necessary to adopt some plan that will prevent them from returning to the place from which the hive was moved and cause them to mark the new locality of the hive. Strong colonies moved a short distance at night or during a cold spell in winter have often been so weakened by the loss of bees returning to the old location that they became an easy prey to robber-bees or the ravages of the bee-moth larvæ.

Bees may be moved without loss if proper precautions are taken. I would recommend the following plan, which with me has been successful: Select a warm, bright day, when the bees are active; puff a little smoke into the entrance of the hive, and if the bees are on the wing, or in the field, give them time to return; thirty minutes will usually suffice; keep the bees from going out of the hive by smoking them at intervals; have a box ready large enough to cover the top of the hive; if it is a movable-frame one, remove the top; if a box or gum, invert it and place the empty box on the top, into which the bees will ascend, and proceed to knock or drum on the hive 10 to 20 minutes, or until the bees with the queen have passed up into the box; then carefully put the box, containing the bees, on or near the spot where the hive stood, raise it a little in front so that the bees on the wing can pass in; then move the hive where it is to remain permanently, and proceed to hive the bees in the old hive, as you would a new swarm. Bees moved in that manner will mark the locality of the hive.

Bees can be moved a foot or even two feet a day without loss, but it confuses them; yet, that might be the best plan if they are to be moved only a few feet.

When bees are moved a mile or more, it is not necessary to take the foregoing precautions, but care should be taken to have all the bees in the hive; if any should be on the wing, use a little smoke and give them time to enter the hive before closing it up. If the hive has movable-frames, wire-cloth can be tacked over the entrance; if a box or log hive it should be inverted, and coarse cloth, such as coffee-sacks are made of, should be tacked over the bottom, (now the top) of the hive securely, so that no bees can pass out. If in a movable-frame hive upward ventilation should be given, by tacking wire-cloth over spaces in the honey-board, or auger holes made near the top of the hive. The number of bees and condition of the weather should control the amount of ventilation.

Early in the spring is the most favorable time for moving bees by wagon or railroads, for at that time they have but little honey and brood, and in that condition will stand the jolts and jars in transit much better than when loaded with honey and brood. If bees are moved when the combs are heavy with honey, it should be extracted and the frames secured to prevent them from moving, which can be done in a Langstroth hive by putting strips of wood one-half inch thick and the length of the end-bars of the frame between each frame at the ends, and tacking strips across the top of frames at each end.

If bees are moved in a wagon, I prefer an ordinary farm wagon, without springs; and with straw, leaves or shucks, a foot deep in the bottom to put the hives on, and to crowd between the hives, so they will not touch or move about. Box or log hives can be hauled long distances over rough roads without breaking down; the hive being inverted, the honey in moving is in the bottom and the bees gather at the top. N. P. ALLEN.

Smith's Grove, Ky.

T. F. Bingham, Michigan, observed that bees can be removed any distance at this season of the year.

Prof. Cook took issue, stating that but four weeks ago he attempted moving bees with unsatisfactory results.

Mr. Bingham explained that four weeks ago there was much brood in the hives, and the weather being warm queens were undoubtedly laying prolifically.

Mr. Heddon, Michigan, thought Mr. Bingham's covering the box induced the bees to note location anew.

Charles Dadant, Illinois. We move our bees at will, at any time of the year, any distance from one rod to miles, without loss, by giving them a slanting board in front; but after the bees have been in winter quarters they will always return to old location.

E. D. Godfrey, Iowa, and Mr. Winslow, of Wisconsin, have practiced for years Mr. Dadant's method, with satisfactory results.

G. W. Zimmermann, Ohio, has followed the same plan, substituting colored paper for boards in front of hives.

Mr. Bingham stated when bees were

gathering honey, or attending to any other usual business, they did not stop to mark location on leaving the hive.

Prof. Cook had neglected placing the board in front of hive to induce a new marking, and thought that might obviate the difficulty.

The Secretary then read the following paper relating to

Bee Forage in the South.

The extent and abundance of the honey-producing flora of a country, other conditions being equal, must determine whether apiculture can be successfully and profitably prosecuted in that locality.

In my remarks upon bee forage, I shall confine myself to that portion of the Southern States lying south of a parallel of thirty-six degrees north. Geographically considered, this portion of the United States is more varied and diversified in climate, soil and productions, than any other. In the mountainous regions of North Carolina, upper Georgia, and Tennessee, the climate is cool and temperate, and there nearly every plant and fruit that is grown in the higher latitudes can be cultivated to perfection. As we proceed southward the climate becomes more mild and genial, until we arrive near the Gulf-coast where we approach the "home of the orange."

Hence we perceive that the diversified climate of the Southern States admits of an immense variety of honey-producing plants.

To form a correct estimate of the value of many of our reputed nectariferous plants would be a very difficult task. In order to arrive at correct conclusions as to the worth of a flower to secrete honey, it requires no little intelligence and accuracy of observation. Most of beginners are too prone to accept for truth the nursery rhyme:

"How doth the little busy bee
Improve each shining hour,
And gather honey all the day
From every opening flower."

The simple fact of seeing a bee upon a flower does not prove that it is gathering one particle of honey. It is bee nature to hunt for sweets; and in times of scarcity it will visit flowers that it would not touch under more favorable circumstances. Hence many of the favorable opinions of this or that plant for honey are often based upon very hasty and inaccurate conclusions.

To calculate the value of a plant for honey, we must have a sufficient quantity of the same within the immediate range of our bees in order to enable them to work to an advantage. The seasons—the atmospheric conditions—must not be lost sight of. Too much rain may wash the saccharine secretion away; a protracted drouth may cause its suspension; while a hot, dry atmosphere may evaporate the secretion before the bees can gather it.

When there are many forage plants in bloom at the same time, the bees are mostly seen on the ones yielding the most honey; while the rest, although secreting some nectar, would be nearly neglected.

Therefore the honey-value of some of the trees, shrubs, and plants that I shall catalogue as bee forage, must necessarily be more or less conjectural.

For the sake of system, as well as convenience, I shall divide the honey-flora into spring, summer and autumn forage. The time and duration of bloom are noted, in the most of cases, for the latitude of Augusta, Ga. North of this point the time will be later, and as we go south the time will be earlier.

The earliest-blooming of our spring forage plants is the Alder (*alnus*), which commences about the middle of January and lasts, some seasons, till the middle of February. It yields little or no honey, but during its time of bloom, its pollen-laden catkins are covered with bees. The amount of pollen that this plant affords is immense; and it comes in a time when breeding should be most encouraged. If a slight digression is here allowable, I will remark that pollen is the "staff of life" to the brood, and if our hives are deficient in it, and the bees cannot procure it, or a substitute, brood-rearing cannot properly proceed.

In some sections of the south, particularly on light, sandy soils, there may be found some Yellow Jasmine, (*gelseminum sempervirens*). As its flowers possess very decided toxical properties, it is not a very desirable plant to have within the range of one's bees. It blooms after the Alder. While our native black bees are very seldom seen working upon it, the Italians, in some seasons, will work upon it quite briskly. I am inclined to think, from close observation, that it is mostly pollen they gather from it, though in some seasons it does yield some honey.

I have more particulary named this plant because of its poisonous effects upon young Italian bees immediately after taking their first meal. For the past nine years I have observed, commencing with the opening of the Yellow Jasmine flowers, a very fatal disease attacking the young bees and continuing until the cessation of the bloom. The malady would then cease as quickly as it came. The symptoms of the poisoning are: the abdomen becomes very much distended, and the bee acts as though intoxicated. There is great loss of muscular power. The bee, unless too far gone, slowly crawls out of the hive and very soon expires. When examined, the abdomen seems to be distended with a sort of serous-looking fluid. The deaths in twenty-four hours, in strong stocks with much hatching brood, may amount to one-half pint, often much more.

While my observations and conclusions have been verified by dozens of intelligent bee-keepers, breeding pure Italians in localities where the Gelseminum abounds, it is still to be hoped that further observations may be kept up by southern apiarists who are favorably situated for making investigations.

The wild plum (in some sections known as the hog plum) usually commences to bloom the last of February and lasts for two or three weeks. This is peculiarly a southern tree, and grows to great perfection nearly everywhere. Whole acres are often covered with it, forming a dense thicket, thus affording the bees rich pasture.

In March we have the peach, the apple, (which continues into April) the mock orange, or ever green wild cherry (*Cerasus Carolinaensis*), the huckleberry, strawberry, and a few other plants of minor consideration. Further south they have the tyty, the saw palmetto and the orange; all good forage plants.

The willow, wild cherry, hawthorn, blackberries, raspberries, locust, holly, and tulip tree (*Liriodendron tulipifera*) bloom in April. The two latter are most valuable for honey. The holly blooms for about two weeks—the height of its flowering is about the first week in May. The tulip tree blooms for three weeks. This is the poplar tree of the south.

In May we have the black gum (*Nyssa multiflora*) and the persimmon; both excellent for forage. The blooms of these trees are diœcious, that is, the male flower is found on one plant and the female flower on another. Bees are very seldom seen working on the female tree, while on the male bloom they work in a continuous swarm.

In May, also, blooms the bay (*Magnolia glauca*). This tree flowers for at least one month, and extends into June. It affords some of our best and most abundant forage. The *Magnolia grandiflora*, linden and Chinaberry tree (*Melia azedarach*) bloom also in May. The magnolia blooms for six weeks; the linden from six to ten days, and the china tree for two weeks.

Sourwood, the varnish tree (*Sterculia platanifolia*), Japan privet (*Lugustrum*), and a few other plants of less note embrace the principal forage in June.

I have now enumerated the chief honey-producing plants that go to make up our spring honey-harvest. Take one season with another, our bees commence to lay up surplus about the last of April and continue until the first or middle of June. After this date but little honey is gathered until the fall honey-harvest commences. The bulk of our spring honey is gathered from the holly, persimmon, black gum, bay and sourwood. Of course, some seasons there is considerable honey gathered from other sources. The color of the honey is usually a little dark but of excellent flavor.

There is comparatively little forage during the summer months of July and August. The button bush (*Cephalanthus occidentalis*), Sumach, *Asclepias tuberosa* (known as pleurisy root and butterfly weed), and *Yucca alnifolia*, (Spanish bayonet), are the most important. The cotton plant, which generally commences to bloom about the first of July, yields largely of pollen, but very little honey. Sumach is a rich mellifluous plant, but the warm, dry atmosphere evaporates the secretion very rapidly, so that the bees can only work on it very early in the morning while the dew is on. The Spanish bayonet plant no doubt furnishes some nectar. It generally swarms with flies, various sorts of wild bees, and now and then a few honey-bees will visit it.

Bees are generally able to gather sufficient stores during July and August to keep up brood-rearing and the strength of the colony, until the blooming of the autumn forage.

The first to bloom of the fall pasturage is the *Chrysopsis graminifolia* of Nuttall; a perennial, composite. This plant is often taken for a species of dog-fennel, but it is altogether distinct. It is indigenous to the south from Florida to North Carolina, which seems to be its northern limit; it is a yellow-flowering weed that commences to bloom in August and keeps on till frost. In fact, in some seasons, its blooms can be seen in July. Fifteen or twenty years ago it was only to be seen in patches here and there over the country; but it has spread until now all the road sides and commons look, during the bloom of this weed, as though covered with a yellow mantle, and even the air, at times, becomes filled with the pungent yet not unpleasant odor of its flowers. It produces large quantities of honey of a yellow, bitter, disagreeable taste. For breeding and wintering it answers all the purposes of a better article, but is not suitable for market.

After the appearance of the golden rod and the asters, in September, bees are very rarely seen upon it. If it is desired to keep this bitter honey from that of the mellifluous plants just named, it should be extracted upon the appearance of the bloom of the solidago and the asters. But all such operations, like extracting at this season of the year, require good judgment and care, otherwise we might leave our bees in poor condition for the winter.

The golden rod and the asters bloom till killed by frost. I esteem both these plants very highly for their honey-producing qualities. In some seasons I have hives filled with aster honey alone.

I am satisfied that it will never pay to cultivate plants in our southern country exclusively for the honey. I have tried nearly all the so-called bee-plants, such as borage, mignonette, alyssum, Rocky Mountain bee-plant, etc., etc., but have never been able to see any good results. To be profitable, a plant must have other uses besides honey.

Both the red and white clover do well on our clay and alluvial soils that are sufficiently rich for their growth, but it is folly to expect success on light, sandy uplands. I have seen as fine clover grow in South Carolina and Georgia as ever did in Pennsylvania and Maryland; and I am glad to say that more attention is being paid to their cultivation. Alsike clover and melilot can not be successfully grown. First, it is very difficult to get even a fair stand; and, secondly, even after a passable stand is obtained, the plants are killed during our long, dry summers.

Buckwheat grows well, but it either fails to secrete honey during the summer months, or the honey is dissipated before the bees can gather it. If sown the latter part of August, so as to bloom in September, it comes in competition with plants that are richer in honey, and the bees, in most of cases, refuse to work on it.

Catnip, horse or goat-mint, mustard, etc., when cultivated, yield much honey. The first two of these plants might profitably be grown in all out-of-the-way places.

In laying out our pleasure grounds, and in planting shade-trees, it is advisable to keep an eye to utility as well as to ornament. Many of the most valuable and ornamental shade trees are also excellent for bee forage. I can especially recommend the *Pawlonia imperialis*, catalpa, china berry tree (*melia azedarach*) *sterculia platanifolia*, or varnish tree, and mimosa.

Most of these beautiful trees are natives of Japan, a country to which America is greatly indebted for a large number of her most highly ornamental trees and plants.

In some seasons, in many localities in the south, there is found on the leaves of various trees and shrubs, a saccharine formation called honey-dew. Without discussing any of the theories advanced to account for this secretion or excretion, I simply refer to it, and state that the amount of honey obtained sometimes from this source is very great. Its quality is inferior.

Before I close this paper, I must refer to the wanton destruction of melliferous trees and shrubs in nearly every portion of the southern country. In some sections this has been carried to such an extent as to preclude the possibility of surplus honey in apiaries that formerly yielded large returns. It behooves every bee-keeper to give attention to the preservation of honey-producing trees and plants as much as possible. DR. J. P. H. BROWN.

Augusta, Ga.

The following papers were then read on

Foul-Brood—its Dangers and its Cure.

Foul-brood has for years, been a terror to bee-keepers in the old world, and was transplanted to America by importation. It has made fearful progress in the South and Southwest, also in the Eastern States and California, and bids fair to be a serious stumbling block to bee-culture, if not checked in time. I have answered so many letters in regard to this matter that I could not well select a better subject for this article.

Our greatest danger lies in ignoring or hiding the trouble, as under such a policy, nobody's bees are safe in a neighborhood where one hive is afflicted. Robbing bees may spread the disease anywhere. A hive, afflicted with foul-brood, cleaned out by robbing bees and left on the stand, will keep a whole neighborhood infected for years. We may imagine, therefore, the mischief which will follow a carelessness of this sort.

Foul-brood does not originate in a healthy colony, but is a disease of itself, of a sporadic nature, which does not affect the lives of old bees, but is carried along on their legs or other parts of their body into the hive, and wherever it comes in contact with larvæ, it finds a fertile soil. The larvæ die and foul-brood begins its growth.

Spores or micrococcus develop and are carried all over the hive and combs by the bees. Wherever one of those parts, which are too small to be discovered with the naked eye, happens to drop into a brood cell containing larvæ, a new start is given to the disease. The dead larvæ decay and turn fast into a tough, yellow, bad smelling mass of a ropy nature, distributing micrococcus all the time until all the brood is affected. It often happens that larvæ take the disease just before the cells are capped. We recognize those capped cells afterwards, by their flat appearance and a little perforation in the middle. Bees perhaps getting impatient about the hatching of their young, make the opening and quit in disgust upon discovering the bad odor arising from within.

The air of a foul-broody hive is so disgusting that I imagined I could smell it when walking past. The dead larvæ, turned into a yellowish-brown, dry up and stick, mummy-like, in the lower corner of the cells. Being of the same color as the comb, they are often undiscovered, and although the combs are disinfected thoroughly, as the bee-keeper thinks, they will bring death and desolation to the hive wherever introduced. As soon as an egg is laid in one of those cells and the larvæ begins to develope, the mummy softens up and the disease takes its start anew.

There is said to be, also, a harmless foul-brood which makes its appearance in a weak colony and disappears again when the bees become populous. I never made the acquaintance of this kind, and believe it to be an entirely different disease. As a proof, I offer the following:

Having my apiary on a roof and wearing out the latter, I concluded one summer to put on a new one. This was 10 or 12 years ago. I knew how to keep a hive of bees closed up safely for a day, of course, if it was in July and the weather warm. So we went to work. At noon, when the honey commenced to run down the tin spouts, into the gutter, I knew what I had done; but at 5 p.m. every stand occupied its old place. About ¾ or more of my bees were killed. Every comb was broken down, and every bee killed in some of the hives. The unhatched brood in the capped cells were smothered. For two weeks I devoted every spare hour (and more) to the straightening up of combs and cleaning out hives and several sympathizing friends lent me their helping hands, picking the dead out of the cells, etc. The dead larvæ became putrid, and I was alarmed at the bad odor when opening a hive. Several colonies, unable to bear the stench, swarmed out. I hived them again, gave them new combs, in clean hives, contracted the space to suit the colonies, fed them up, and when winter commenced, every colony was in good condition. Every comb was cleaned out by the bees (*i. e.* the cleaning finished) and no foul-brood anywhere.

About four years ago, however, in the fall, I bought a few colonies of bees from a neighbor who himself had bought them from a party in Kentucky. I had noticed nothing wrong, but the next spring one of them was foul-broody and before I was aware of it, several more colonies were afflicted. I knew the disease from its description in the *German Bee Journal*, and I knew also the discovery of Dr. Schœnfeld, that foul-brood was of vegetable growth and destroyed by Salicylic acid, which was harmless to animal life, and even the tender larvæ of a bee, if properly applied. I knew furthermore the discovery of Mr. Emil Hilbert (one of our most enthusiastic and energetic German bee-keepers), and the manner of application. It consisted of

50 grammes of crystal salicylic acid.
400 grammes of pure spirits.

One drop of this mixture added to 1 gramme of distilled water was the proportion and ready for application. It had to be applied lukewarm in order to keep the acid dissolved. Pure spirits was used to dissolve the Salicylic acid, and while the latter is harmless to animal life, an overdose of the former will kill the larvæ. My druggist, therefore, made up for me the following solution, which is essentially the same as the above, but entirely harmless to larvæ and which may be used at any temperature.

128 gr. of salicylic acid.
128 gr. of soda borax.
16 ounces of distilled water.

I purchased a couple of good atomizers of which there are a number of different kinds to be had in our drug stores and proceeded to disinfect. One frame after another was taken out and every part of it and the comb was covered with a fine spray of the medicine. Every bee received a ducking. After being done with the combs and bees, I disinfected every part of the inside and front of the hive, the alighting board and the part in front of and around it. It was wonderful to observe the clean sweep the bees made of their diseased and disinfected larvæ during the next two days. This progress of disinfection repeated 5 or 6 times in a thorough and careful manner and every other day, will cure a foul-broody colony. If however, one of the mummies remains in one of the cells or a particle of the micrococcus is yet hid in a crevice or corner of the hive or frames, foul-brood will make its appearance again, just as soon as a bee will run over it, take it along accidentally and drop it in one of the brood cells.

Salicylic acid will cure foul-brood without a doubt, and it is not a hard matter to cure a foul-broody hive. But, while you are applying the medicine to one hive, visiting bees from others will take the disease home with them and before you know a dozen or more of your hives are infected. This is especially the case before and after the honey harvest when bees naturally are inclined to rob. With all your precaution, you will have a job on hand. Three years ago I had cured quite a number of foul-broody colonies which had been infected in the above described manner. I had no signs of the disease the following year, and a large honey harvest. In the spring of last year I purchased a number of colonies and placed one on a plank, on which I had two years previous dropped some of the larvæ of an infected hive, which had stood above. Those larvæ had been swept away and the place disinfected every time. Still some of the micrococcus appeared to have been hid among the fissures or fibers of the wood, attached itself to the feet of the bees and infected that colony. It was one of the strongest colonies I had. The bees being black and standing in an odd place, I used its brood-combs to strengthen up other colonies. On the last comb I noticed foul-brood that had just taken a fair start. An examination showed that every comb taken out before had been affected likewise. Those hives in which I had placed them, were infected, of course. My energy was taxed considerably that summer and my honey crop damaged. I cured fourteen or fifteen hives and, when, in the fall, on account of rebuilding the house, my bees were moved to the country I marked one hive as doubtful. Foul-brood was gloriously developed again in about a month from that time. It goes against the grain of a bee-keeper to kill a bee, but my patience was exausted. Brimstone was resorted to, combs and frames were burned and hive washed out with salicylic acid for future use. This was last fall.

In the early part of last spring, I kept a close watch over my bees and found, in one hive the larvæ of a few cells just at the point of turning yellow. A few of those mummies had been overlooked the previous season and I noticed their effect in due time to prevent trouble. I cut out the diseased cells, gave combs, bees and hive a dose of the medicine as described above and fed the colony with honey to which was added a small portion of salicylic acid. The remedy was complete.

I was not so fortunate with a strong colony I discovered a month later. In this case the disease was already developed too far, and having a vivid recollection of my troubles last year and three years ago, I considered the brimstone pit the best remedy. To this I proceeded after dark so that no bee survived to tell the tale. This I admit is cruel, but it is a radical remedy and will be adopted by me in the future in every case where the disease is far advanced.

I admire the patience and endurance of Mr. Hilbert. To him and Dr. Schœnfeld we owe a great deal of gratitude, as without their aid we should neither have the means of curing foul-brood nor of preventing the spreading of the disease. For two seasons I have tried faithfully to imitate the virtues of friend Hilbert and not without success, and the only consolation I have are the words of a sympathizing friend and fellow-sufferer: "It makes us all the better bee-keepers."

The maxim, "Time is money" is realized by most of us. I for one, can better afford to buy 5 or more colonies of bees than cure one, after foul-brood is in an advanced state because a number of other hives are almost sure to be infected while handling the one. We cannot be too particular to destroy every particle of comb, frame and hive belonging to a foul-broody colony. In order to prevent the disease, it is also very essential to add a small portion of salicylic acid to all of our feeding honey or syrups, in fall or spring.

Another item may be worth mentioning. After I had subjected the majority of my combs to a treatment of salicylic acid a great many times, I despaired of my ability to destroy the above mentioned mummies and concluded to render the combs into wax. But to my surprise, I found the yield of wax entirely out of proportion. It appeared as if the acid had destroyed the wax. Hence, the combs and frames were burned to ashes and scattered to the four winds of heaven.

I hope that none of our friends unacquainted with this loathsome disease will ever be troubled with it, but as the possibility exists that any one of us may at any time make such an unpleasant discovery in his apiary, it will be prudent to mark all such articles appearing on the matter or to have them handy in case of any emergency.

Cincinnati, O. CHAS. F. MUTH.

Foul-Brood.

Every intelligent bee-keeper is interested in all that pertains to the health and prosperity of his apiary. As foul-brood is one of the many hindrances to successful bee-keeping, it may be profitable to spend a few moments in exchange of ideas upon one of the most loathsome calamities that can attack our apiaries.

An exhaustive treatise on the subject would be too lengthy for this occasion, and only some of the more salient points will be noticed.

The first thing to attract the attention of the careful bee-keeper, should foul-brood make its appearance, will be a few sunken cells, with small perforations in the caps, scattered over the brood combs. These cells contain the putrid remains of the unhatched brood. If these cells are found in large numbers, the disease may be considered to be in an advanced stage. If in addition to this, a large portion of the uncapped larvæ is found dead; the disease is in its malignant stage. This disease may be in a hive in a mild form for a long time, doing no serious harm, and may possibly die out entirely; but at another time the conditions may favor the rapid growth and spread of the infection, and it becomes malignant and contagious.

The researches of Dr. Preuss and others lead to the opinion that the disease is caused by a microscopic fungus cryptococcus alveario. These fungi are very minute, round and dust-like, and the Doctor estimates that a single cell may contain forty billions of the fungi. With this knowledge of the infection; the minuteness and penetrating power of its particles, its rapid spread and growth, must all be taken into account when we attempt a cure.

The chemical laboratory opens to us its thousand remedies, and with its aid we feel confident to attack the myriad hosts of the enemy. Herr Lambrecht, a chemist of Germany, was one of the first to claim successful treatment.

Among the various remedies which I have tried, nothing has given me so great satisfaction as the hyposulphite of soda, suggested by Dr. Abbe, of Massachusetts. The Doctor recommends one ounce of hyposulphite of soda to half a pint of rain-water, to be used with an atomizer, spraying the combs, hive, and bees, and washing out every infected cell.

Chloride of soda (salt) made into a strong brine works about as well, but does not deodorize like the hyposulphite of soda.

Salicylic acid has been used in Germany, and tried in this country with varying results. The author of this remedy says that the combs must be gone over at least eight times, opening every cell with sunken cap, and the acid carefully applied. The same amount of labor is required if chloride of soda is used. How discouraging if, as often happens, after all the bee-keeper's care, some of these billions of fungi have not been reached by the remedy, some of the infected pollen remains, and he has his work to do over again. Must we, after all our chemical research and scientific attainments, go back to Quinby or Alley for the best system?

To eradicate the disease with chemical treatment involves the possibility of having to repeat the work many times. In my opinion, Quinby's method with the addition of comb-foundation, is the more practical, less laborious, more sure and economical.

Should foul-brood again visit my apiary. I should without hesitation shake the bees off the combs into a clean box or hive, and leave them there until all the honey taken with them had been worked up into comb, I should also have ready a new hive, supplied with comb-foundation (wired foundation preferred), would then shake the bees into this hive, making sure that not a vestige of the old hive, comb, or honey, could be reached by the bees. I should have constantly on my mind that one cell of foul-brood may contain forty billions of seed, and that any one seed may reproduce the disease.

The utmost care should be taken that no other bees from the woods or neighbors' yards get to the comb or honey, as the disease may be readily spread by them. The comb should be immediately melted into wax to destroy the fungi that might remain in it. The honey, if brought to the boiling point, can with safety be fed to the bees. The above method I have tried with complete success.

If the disease should make its appearance in one colony only in the apiary, the temptation would be strong to apply the fire test of Alley, and reduce the whole, hive, bees, combs and honey, to ashes, and thus quickly end the strife. Without thoroughness there is no safety; with it, the disease may be subdued and conquered.

East Saginaw, Mich. L. C. WHITING.

Mr. Wilcox, of Wisconsin, wanted to know if there was any first cause for foul brood, and if so, what?

Dr. Parmly, of New York, stated that he had two colonies affected by it.

D. A. Jones, Ontario, stated he had had 300 colonies affected by foul brood. He had soaked combs for twelve hours in salicylic acid, but without any benefit. He would advise any one having foul brood in his apiary to burn his bees, combs, and everything coming in contact with it. Foul brood originated in his apiary by the breaking down of combs in a hive in being moved; the brood in the combs being chilled, allowed to remain and becoming putrid in the combs. From this hive the contagion spread to the adjoining hives. He put salicylic acid in the honey being consumed by the by the bees, without deriving any benefit. He found boiling the honey would kill the fungi. If Mr. Muth will send him acid that will cure foul brood and not kill the bees, he would give him $50.

Mr. Pammell, LaCrosse, Wis., had two cases of foul brood.

Mr. Jones thought sultry, foggy, damp atmosphere would engender foul brood.

Mr. Collins, Texas, had had foul brood in his apiary for four years in succession, which has ruined his apiary each season. He has found that nothing but fire will cure it.

T. F. Bingham, Michigan, had foul brood in his apiary in New York, and after various experiments and the loss of 25 colonies, concluded fire was the only radical cure.

Mr. Heddon, Michigan, never had any experience with it; but should his apiary become afflicted with it, he would immediately apply fire, as a duty to his bee-keeping neighbors.

Mr. Bingham would burn hives and bees.

Mr. Jones would boil the hives and use them again. He now has 125 hives in use from which the bees were killed, and there were not now any bad results.

D. M. Ketcham, New York, inquired if the bees had access to salt.

Mr. Jones. Yes.

Mr. Schofield. No.

Mr. Collins. Yes.

Dr. Parmly. Yes; the whole Atlantic Ocean.

Mr. Heddon. I do not believe bees use salt; it is sal ammoniac they want.

Mr. Rice. If you will put water and salt in an elevated trough, your bees will not trouble the chicken pans or pumps.

The Rev. W. F. Clarke then read his essay on

The Bee of the Future.

This paper is intended to treat its topic in plain, practical, common-sense fashion; rather than theorically and scientifically. There are three views current in regard to the subject. The first, is that of the conservatives, who think we have reached the *ultima thule*, beyond which no farther improvement of the honey-bee is practicable. They took this ground at the advent of the Italians, and though forced to abandon it for a time, have resumed it. They discourage further importation, and are content to "let well alone." The second view is that of the progressives, who while fully recognizing the advances of the past, believe that the limit of improvement has not yet been reached, but that even our best strains of Italian bees are capable of being made better. The third view is that of the enthusiasts, I had almost said fanatics; who belittle all the achievements of the past, and indulge in the wildest dreams, as to the bee of the future. In their visions, they see a majestic insect with wings large and swift as Gabriel's; a tongue long as that of Xantippe; and an atlas-power of honey-carrying. My present object is, mainly, to prick some of the big bubbles which these dreamers are ever and anon sending aloft in the expanse of apiculture.

I have said they belittle what has been done in the past. Here is the language held by one of them in regard to the bee-keepers of America. "Bee-raising has been carried on mainly with the view of getting at the present time, the most dollars out of the stock, with little regard to its future condition; in fact, there has been no system of breeding pursued. Bees have been brought from Italy, and, by carelessness, lack of foresight, or ignorance, the fixed types there established have failed to appear in their progeny bred in this country." The same writer contrasts the assiduous care of "the people of the Italian peninsula," who, he says, "began the improvement of their bees by selection more than nineteen hundred years ago", with the alleged carelessness of American bee-breeders. It would be folly to deny that there are careless bee-breeders on this continent, but I verily believe, there has been more attention paid to this matter in America during the past fifteen years, than in Italy during the past nineteen hundred years. Prof. Cook is no doubt right when he says: "I believe the superiority of Italians is not owing to careful breeding, but to the law of 'natural selection', shut up in a limited area, and walled in by mountains, there was a struggle for life, and only the fittest could survive, so all but the most vigorous would starve; hence there was developed an active race with longer tongues." It is much to be regretted, that, just when the superiority of American bee-keeping has been recognized with honor by the masters of European apiculture, it should suffer unjust disparagement by those of our own fraternity.

The writer just quoted, and who seems to have drawn all Michigan after him, has fixed his affections on *apis dorsata* as the bee of the future. So far as I am aware I have no prejudice against any bee, or any man. But I am free to own that I am not enamoured with *apis dorsata*.

According to the statements of Edward Cori, and others, this insect, commonly known as "the great bee of Java," is at least twice the size of our black bee. Mr. Cori says of it, "the sting is likely twice as long and stout, and the poison-sac twice as large as that of our native black bee." He adds: "Since the effect of the sting of the common bee on persons not accustomed to it is so great, what must at first be that of *apis dorsata?*" But this is not all. He says, further, "with the warm climate and luxuriant flora of Java, the poison of this bee may be of a stronger nature."

It is no wonder the Javanese are not great bee-keepers when they have such a formidable insect to deal with, considering that their "full dress" is a cotton shirt! Should this become the bee of the future we shall need, not as now, a veil and gloves merely, but a coat of mail for our apiary garb. But this bee is a great winger, as well as a great stinger. It angrily pursues in large numbers and to long distances, the person who disturbs them. Running back and forth, hiding in bushes, and such like devices, are of no avail. It will pursue you like fate, and fix you like destiny.

Dearly beloved brethren, pray postpone the introduction of this terrible bee until I have died comfortably in my bed. Having been nearly stung to death by an amiable Italian, what chance for my life could I possibly have with "the great bee of Java?" But this charming insect has other peculiarities. It has a fashion of settling high. The swarms invariably cluster on the topmost branches of the loftiest trees. They also build their combs in a horizontal, instead of a perpendicular manner. No doubt Yankee ingenuity might be able to adapt hives to this eccentric habit, but fancy the dire effect of a cross. We have overcome the tendency to "higgledy-piggledy" comb-building, but a mix of horizontal and perpendicular, would be "confusion worse confounded."

The one redeeming quality of this bee seems to be, the length of its proboscis. Cori says, it is nearly twice as long as that of a common bee. I admit fully the value of this feature. In fact one of the chief things to be desiderated in the bee of the future, is length of tongue or proboscis. But I would exhaust all endeavors to secure this by judicious breeding and careful selection, before importing a race of bees, whose multiplication would justify, if not demand, governmental interference for the protection of the non-bee-keeping part of the community.

Lest my opposition to the *apis dorsata* should be resolved wholly into scare, I will add, that we have no evidence whatever as to its honey-gathering industry and skill. We are told that its honey is "said to be very fine." So we know is that of our own bees. All except the ignoramuses who suppose that bees make honey, are quite aware that the quality of this product depends on the flowers, and not on the bees. If anything is to be done by way of experiment with *apis dorsata*, I would suggest that "some bee-keeper, not too old, strong, wise, of indomitable energy," and very thick-skinned, should emigrate to the island of Java, carry on an apiary there for a few years, and report progress from time to time to the annual session of this Association.

How is the bee of the future to be obtained? Prof. Cook says: "Aim to have your queens reproduce themselves in fecundity, and in ability to generate the most vigorous and energetic workers, then breed for amiability and beauty."

I believe, nay, I am sure, that our breeders, if encouraged, can produce bees that will eclipse our best Italians of to-day. I endorse that, "There is only one way in which our bee-breeders can be encouraged, and that is by a willingness to pay good prices for good queens." The dollar queen business, like the use of glucose, must be abandoned. Both queen and honey adulteration belong to the same category. Our veteran authority, Mr. Langstroth, truly says: "We want the best race of bees, or the best cross in the world." I apprehend that bee-stock is ruled by the same laws that govern other stock.

No breed accidentally discovered in some far-away part of the world has ever been imported and adopted just as it was. Certain races that, either by natural selection, or judicious pairing, have developed a high standard of excellence, have been taken as the foundation; then the best specimens have been chosen and bred from. This is the history of the thoroughbred and other horse tribes; of Shorthorn and other cattle; of Merino, Cotswold, Leicester, and Southdown sheep; the improved breeds of hogs; and the more valuable varieties of poultry.

By all means, let us import as we have been doing, only with more care; breeding only from the choicest and finest specimens. Undesirable variations and inferior types will occur, but just as other breeders make beef of their poorer cattle, mutton of their worser sheep, pork of their second-rate pigs, and pot-birds of their poultry that do not reach the standard of excellence; in like manner let us remorselessly sacrifice all but A 1 queens. By so doing, at the same time selecting first-class drones; breeding in full colonies; at the most favorable season of the year; sparing neither time nor pains; we shall ultimately succeed in producing the bee of the future, *apis Americana*, which will satisfy our own ideal, and "beat the world."

Guelph, Ont. W. F. CLARKE.

Prof. Cook wished to correct an erroneous impression conveyed in the essay in regard to *apis dorsata*.

Rev. Mr. Clarke stated the implication did not refer to Prof. Cook.

Dr. Parmly stated he had been interested in the cultivation of the Egyptian bee; but after possession of them, and a thorough trial, he had been interested in getting rid of them.

Rev. O. Clute, for the author, read

The Next Progressive Step.

At the last meeting of the Michigan State Bee-Keepers' Association the following resolutions were unanimously passed:

Whereas, We feel the deep importance of the subject so ably presented by our brother member, Mr. Frank Benton, of Detroit, of some plan to secure the testing of the various species or races of exotic bees, and,

Whereas, We feel that in the importation of some of these bees, there are very great possibilities of rapid advancement; therefore,

Resolved, That President Cheney, Frank Benton and H. M. Roop, be appointed a committee to take the matter into consideration, and if possible, to devise some practicable scheme whereby we may obtain information of the various species of foreign bees, and if desirable, may secure their importation into our State and apiaries; and,

Resolved, That the committee bring the same subject before the National Convention at its next meeting.

I am not the chairman of the said committee, but as I have received no word from that gentleman, I propose to try to accomplish a portion of the committee's work by presenting for your consideration a statement of the views entertained, after some years of experience with Cyprian bees, by prominent bee-culturists of Europe, so far as the latter have expressed themselves in the apiarian journals of the continent. Doubtless I have not seen all that has been printed on this subject, yet the authorities I shall quote are such as are known to have had experience in cultivating this race of bees, and whose reputation is too well assured for any to doubt their having used care and having made great efforts to arrive at the truth. And as I cannot be present to take part in your discussions, you will certainly permit me a few comments and words of explanation as I proceed. My esteemed friend, Prof. A. J. Cook, (do not interrupt me by saying he is not a European bee-culturist, for more than once I have seen his name in the apicultural journals of sunny Italy, and they spoke of him as though he were one of them), has ably presented the scientific aspect of this subject and therefore I only need to keep in view what has been realized practically.

The credit of importing the Cyprian bees from the Island of Cyprus into Europe, belongs conjointly to Count Kolowrat, of Hroby, and Herr Eduard Cori, Director of Chancellory, Bruex, Bohemia. For a great many years these gentlemen have been engaged in importing and testing various races of bees. They have tried the Italians, Carniolan, Herzegovinian, Dalmatian, Smyrnian and, finally in 1866, they obtained the first colony of Cyprian bees. The latter were received just at the beginning of winter and did not survive until the next season. Another colony was obtained in 1872, and two more in 1874, since when other importations have been made. Apiaries of hundreds of colonies of Cyprians are now in existence in Austria; in Germany there are also large Cyprian apiaries, and the race is attracting much attention in adjoining lands as well as on this side of the water. The opinions expressed by foreign journals are, in the main, very strongly in their favor, and I am fully persuaded that our next progressive step is to introduce their cultivation extensively into this country.

A brief description of the Cyprians may not be amiss to many: The bodies of the bees are strong, slim, and wasp-like, the abdomen being quite pointed. They are to be classed, decidedly, among the yellow races; their whole bodies have generally a more golden or orange color than those of the Italians, the most distinguishing marks being that the under side of the abdomen is a pronounced yellow or orange (while the Italian is generally dark especially toward the tip), the first two segments are orange-yellow the whole width and when viewed toward the light seem somewhat transparent, the tip of the abdomen is shining black, the back of the thorax presents a deep orange-colored shield with a reddish, changeable border; they have a hairy coat which is light yellow and covers something more than half the breadth of each ring. These features serve to distinguish them very readily from Italians.

The Cyprian queens are perceptibly smaller than other queen-bees, their bodies being slender, in fact delicate appearing, very tapering, but long; they have four rings colored, generally darker orange-yellow than those of the worker-bees; the thorax and the segments of the abdomen are more than half covered with a yellow, extremely tender coat of hair, resembling dust, and through this appears the glistening black color of the tip of the abdomen.

The drones of the Cyprian race are strong, and have long, apparently stretched-out bodies; they have the thorax, as well as the first ring under the wings, (which has a thick coat of dirty-yellowish, coarse hair), colored dark orange-yellow inclining to a changeable red; the remaining rings are also reddish-yellow. On the sides of the abdomen in each of rings a black dot is always present. This is universally the case with the Cyprian drones, though in the color of the other portions of the body they vary, inclining, however, to show considerable orange or yellow.

From this description, for which I am mainly indebted to Chancellor Cori, experienced bee-breeders can see at once that there is no difficulty in distinguishing Cyprians from Italians, and, furthermore, that the former are much more beautiful than the latter.

In regard to the qualities of the Cyprians, Herr Cori says: "This race exceeds all those thus far described. The bees commence brood-rearing earlier, have an active disposition, fly when the weather is cool, are extraordinarily prolific, and are diligent in honey-gathering. As regards their disposition to sting it may be said that it is not greater nor less than that of the Italians or of other races." The testimony of this man is well worth considering, for, holding a high position under the Bohemian government, he has for many years devoted a great deal of his time to the elevation of his favorite pursuit—bee-culture, in his native land, and has become recognized in his locality as an authority in such matters. The estimate placed upon his work there is indicated by the following extract from the report of a bee-convention and exhibition held in Tetchen, Bohemia, in 1876, at which were present many of the prominent apiculturists of Europe: "The highest state award, consisting of a silver medal, was bestowed upon Herr Eduard Cori, Director of Chancellory, Bruex, Bohemia, for his Cyprian bees, but as he had previously received the same honor, he declined, whereupon the medal was given to Herrn P. Franz Gœrner, of Politz, for Cyprian bees." The second state prize was awarded to an exhibitor of Italian bees. The highest award of the Bohemian Society itself was given to Adolf Hauffe, for Cyprian bees.

Count Kolowrat, of Hroby, and Chancellor Cori were, as already stated, associated in importing the Cyprians. The former has the model apiary of Bohemia, and has done a great deal for the bee-interests of his country. Rev. J. Stahala, a noted Austrian bee-keeper, says: "No one could think of reproaching Count Kolowrat with the faintest idea of speculation in the matter." It is well known the Count has not sold, nor does he ever sell Cyprian bees, but he has given a great many daughters of his imported Cyprian queens to his particular friends or to apiarian societies. In 1875 he wrote as follows:

"The Cyprians appear to be no particular friends to drones. At the second revision of my colonies in the spring during the latter part of May, I found in sixty-two colonies no ripe drone brood, and in only a few was any drone brood to be found, while from hives containing bees of other races drones had been flying for eight days. How long it was before my original imported Cyprian queen placed eggs in a drone comb, hung in the middle of the brood-nest! Rather than comply with my earnest wish she allowed empty combs, usually so odious to the bees, to be placed between the sheets of brood, and yet this colony was very strong, the weather quite favorable, and I fed it more diligently than any of the others. Such a similar occurrence in all of my Cyprian stocks indicate that it is a peculiarity of this race to commence drone-rearing much later than others do. On the other hand, the killing of the drones takes place from two to three weeks later than with our other bees but the making away with the drones then goes on rapidly; they were slaughtered unmercifully in a short time, with the exception of a few which appeared to have been pardoned, for I noticed during favorable weather in November and December some of these dandies flying in and out of all my Cyprian stocks without being harmed in the least by the workers. Indeed, we met with individual drones in February in colonies in good order and even those possessing good young queens. I believe, therefore, that I am not mistaken in assuming that a further peculiarity of this race is the wintering of individual drones. I found in none of my Cyprian stocks too great a multitude of drones; on the contrary, in comparison with other races, there were rather less, than more. In the collecting of honey the Cyprians are very diligent; they appear to be discreet in the occupation of the ready combs with brood and honey, and only after that to devote themselves with full zeal to the building of new combs. They begin the sealing of honey earlier than do other races of bees."

The best proof that can be adduced to show that the Cyprians have sustained the good reputation early given them by the Count, is found in the fact that from time to time, since the above was written, he has imported more from Cyprus.

One of the well-known and often-quoted bee-raisers of Northern Germany is Herr C. J. H. Gravenhorst, of Brunswick, not a breeder of queens for sale, but an extensive honey-producer, whose sensible article in the old numbers of the AMERICAN BEE JOURNAL form quite a fund of information. He says himself, in an article which I translated for the AMERICAN BEE JOURNAL, Sept., 1877: "After trying various races and concluding that the Italian was the best, I felt not the least inclination to procure and cultivate still another race." However, on the recommendation of some of his apiarian friends, he procured, in 1874, two Cyprian queens, and after three years' experience with the breed reported as follows:

"The colony with the imported queen was

especially diligent, gave a large return, and with the remainder of the stocks, was in good condition for winter. The wintering and development during the next spring left nothing more to be wished for.

"After having carefully observed the Cyprian bee—pure as well as hybrid—I have come to the following conclusions regarding the same:

"1 The diligence of the Cyprian is at least equal to the Italians; indeed, as regards economy within the hive, the former have the preference, because they are less inclined to build drone-comb. The same peculiarity is noticable also with the hybrids.

"2 In their purity they are certainly more beautiful than the handsomest Italians. Those who visited my apiary were always much surprised as strong stocks filled with these beautiful bees were opened, and masses of the insects rolled out so peaceably.

"3. When rightly handled, they are neither more nor less inclined to sting than the Italians.

"Without doubt, Count Kolowrat, as well as Chancellor Cori, are deserving of great credit for importing this race of bees."

In another place the same writer remarks:

"It is a well-known fact that the most of the Italian colonies do not winter as well as black bees, and very often suffer by spring dwindling. This is not the case with the Cyprian bee. I have reared in three years many a Cyprian queen (not to sell with a few bees, but for my own use, and to sell in full Cyprian colonies in the spring), and every such colony wintered well, coming out strong in the spring.

"The Cyprian bee will not swarm as much as the Italian, and does not build as much drone-comb as the latter.

"I will not say the Cyprians work better than Italians, but it is certain my Cyprian colonies yielded me every year the greatest honey harvest. As to stings, it may be stated, they used them neither more nor less than the Italians."

Herr Dathe, the author of the very practical *Lehrbuch*, says: "The Cyprians are more inclined to gather honey than to swarm; however, they are not as gentle as the Italians and are often so cross that thay cannot be controlled by means of tobacco-smoke, resembling in this respect the Egyptians." Mr Dathe is very largely engaged in rearing and selling Italian bees, having, after a good many years' advertising, succeeded in building up a large trade. Who wouldn't get vexed when tobacco-smoke is puffed into his face? I admit I get very ugly when the filthy stuff is puffed into mine.

There seems to be two parties as regards the temperament of the Cyprians. Some say they are quite gentle bees, others that they are very ugly—being almost unmanageable. This of itself would lead us to think that through some mishap the latter had been handling hybrid bees, which are well known as great hands to sting, and indeed, we find a large number of bee-keepers testifying that it is only when hybridizing has taken place that bees of Cyprian blood are cross.

Herr Guenther, of Gispersleben, Thuringia, is another noted and extensive breeder of Italian bees, who says the Cyprians are very diligent and prolific, but says they are exceedingly cross.

Herr Gœrner, who received the medal mentioned before, regards them as exceedingly good-natured. prolific and diligent, and says they have but slight inclination to build drone-comb.

The man who has become so famous through his remedy for foul brood and his great success in feeding milk and eggs for stimulative purposes, Herr Hilbert, of Maciejerro, Pommerania, says the pure-blood Cyprians are as docile as the Italians, and attributes any great disposition to sting to an admixture with the exceedingly ugly Smyrnians, which were largely kept by Count Kolowrat at Hroby, before the Cyprians were imported. Mr. Hilbert does not simply place them on the same plane with the Italians, but believes that they excel the Italians. He says they are more prudent about flying out in the spring of the year; and that as regards their disposition to defend themselves and their courage they excel all other races of bees.

Dr. A. Pollman states that he has no complaint to make regarding their disposition to sting, but that he could not unite them with other bees.

Herr Anton Lorenz writes: "The Cyprian bee is diligent—where there is a chance to rob; this proves its diligence, which we do not wish to disparage in the least, but its crossness exceeds all bounds. As some praise its good disposition, while others bring forward its inclination to sting, are we not to conclude that the race is not pure or not of the same sort, whether this be, as Herr Hilbert thinks, because some have Smyrnian blood in them, or because there are two kinds of bees on the Island of Cyprus, one of which is decidedly ugly."

Herr Adolf Hauffe, a teacher, the first man to introduce Italian bees into Saxony, (having obtained an Italian queen from Dr. Dzierzon in July 1852), said, in August 1877, in an article published in the *Bienenvater*:

"In September of last year I exhibited, at the general convention of the bee-culturists of Bohemia, four Cyprian colonies, and I have found that when the usual work of the Cyprian bees in the hive, or their passing back and forth in front, be disturbed, they sting no more than the bees of any other race—especially the Italians.

"Late in the summer of 1856, when the

mercury stood at 67° F., a hybrid Italian colony swarmed. The bees were decidedly beautiful yellow bees, yet in hiving them I was stung in such a fearful manner that I can scarcely compare it with any stinging I have ever received from black bees. The same peculiarity of disposition is noticable as regards the Cyprians. They lose somewhat of their gentleness only when hybridized, and then take on the stinging disposition of our native bees, the latter even appearing so much the more marked because this handsomely-colored Cyprian is more highly organized. My experience agrees exactly with that of Herrn Gœrner (mentioned before) and I have only to add that, as is the case with every other race, the disposition to sting only appears when hybridizing takes place. These hybrids are by no means to be dispised though, since, if moderately strong, they constitute generally very good honey-gatherers."

I cannot close this article without mentioning first the statements made in a recent number of "*Der Bienenvater*," of Vienna, by Rev. Johann Stahala, Olein, near Olmuetz, Austria. As this valuable essay has been translated by Mr. Julius Hoffman and published in the August number of the *Bee-Keepers Exchange*, I will only present a few of the important points, translating for myself from the copy I have at hand. Mr. Stahala commences by stating that for two years he has been devoting his attention to the Cyprians, keeping from 70 colonies upwards, then he writes: "The Cyprian bee is similar to the Italian, but it has many peculiarities which distinguish it clearly from the Italian." After this follows a description of the bee, which agrees closely with that given by Chancellor Cori, five years ago, and then he continues in the following manner:

"Its increase in the spring is extraordinary—such an increase as is not to be found with native or Italian bees; although more prolific than the natives it does not seem more inclined to swarm than they, if one can judge of it by the past two seasons.

"The Cyprians produce more honey, just for the reason that their colonies are stronger when the harvest comes.

"The tendency to rob is even more pronounced than with the Italians, because the impulse to gather is stronger.

"In comparison with the Italians they are much stronger in numbers in the autumn, which gives greater probability of good wintering.

"Cyprian queens commence the deposition of drone eggs later than do the Italians.

"Finally, in reference to its proclivity for stinging, mentioned by some, I would state that, after my experience with the Cyprian bee, treated as it ought to be, I do not think it is more inclined to sting than the Italian. I will not, however, deny that it is more easily irritated than is the Italian; yet here it is to be observed that when from any cause a colony becomes aroused, it suffices to leave it in quiet for a couple of hours, whereupon it will be found quiet and manageable. Smoke and water only produce greater irritation. The rule is: *Tout par douceur, rien par force.* (Everything by gentleness, nothing by force.)"

He adds: "Wishing to express my opinion in a few words, I say that Count Kolowrat had excellent reasons when, in the past year, he said, so far as he could see, the Cyprian race is the most productive. I agree thoroughly in his opinion."

Mr. Stahala concludes by stating that "the importers of the Cyprian bees are worthy the gratitude of all apiculturists that have, or shall have, them in their apiaries."

In a series of articles entitled, "The Bees of the Island of Cyprus," which I translated from the German of Chancellor Cori, for volume IV. of *The Bee-Keeper's Magazine*, will be found much additional information on this subject, and one point there spoken of I cannot forbear mentioning here. Afrer alluding to the lack of uniformity among the progeny of impurely mated Italian or Smyrnian queens, Mr. Cori says: "It did not result so with the Cyprian race; the daughters of the original queens, even in case they had mated with black drones always produced yellow, double-ringed workers quite uniform in appearance. * * * That, notwithstanding their certain mating with black drones, these queens, without exception, produced always yellow worker-bees as progeny, indicates that the characteristics of the Cyprian race are not only so thoroughly established, as not to succumb to the influence of the black drones, but to predominate greatly; it indicates, too, that the animal nobility of the Cyprian race, if I may so express myself, is, in comparison with that of the native black bees, much purer and greatly higher. It is this one quality of the Cyprians which, indeed, no other publicly known race possesses, that makes them appear to be a particularly valuable and really precious acquisition for the purpose of improving other races of bees."

Rev. Mr. Berry, of England, who wrote, in 1824, the history of the Short-horn breed of cattle, announced in a prize essay before the Royal Agricultural Society, this principle: "That parent casts the influence that has the longest line of ancesters, selected and bred on account of certain characteristics, which have become so fixed as to influence the progeny." This principle, so universally accepted by stock-breeders of the present time, no doubt applies as well to bees as to cattle, and holds true equally well whether the selection has been controlled by the hand of man or been merely natural. Applying the principle we see why the Cyprian bees, having reached a high degree of development through ages of natural selection, should be able to stamp their characteristics on the progeny produced by crossing with another race—one less highly developed.

I must repeat, that I fully believe our next progressive step is to introduce and commence the disseminatiom of the beautiful, valuable bees of Cyprus. I have presented you with the views of the prominent apiculturists who have tested these bees on a large scale and for a number of years—some as many as seven years, and you see they are very generally agreed on all points but one, and that the majority report favorably regarding that point, while from our own experience with Italians we can easily understand how such a diversity of opinion might exist when in reality there existed no serious objection to the race of bees.

Perhaps we cannot, as that enthusiastic German, Herr von Natzmer, suggested to his countrymen, "annex Cyprus," yet I think when American bee-culturists fully realize how great is the benefit likely to result from the introduction of this race of bees, they will not be slow in turning to account all practical means at hand to aid in the work.

Lansing, Mich. FRANK BENTON.

Mr. Rice said his neighbors had procured some of the Cyprians from Mr. King, and his inquiries from time to time had convinced him they were very cross, and not in favor with his neighbors; but Mr. King may give further light on the subject.

Mr. Hulman, Indiana, thought Cyprian bees were better and handsomer than the Italians, but worse in disposition.

Charles Dadant, Illinois, doubted there being any pure Cyprian bees in this country. Only two Cyprian queens had yet been brought here.

D. A. Jones, Ontario, suggested that the members of the Society take meas-to get some pure Cyprians imported. He was desirous to head a list of members of the Society who would agree to take enough queens to make it pay for some one to import them direct from the Island of Cyprus.

President Newman stated arrangements had been perfected to import pure Cyprians through Mr. Pometta, of Swiss-Italy. Several gentlemen pledged themselves to take one or more Cyprian queens next season, if assured of their purity.

Prof. Cook remarked that as Mr. Pometta had promised Mr. Newman to go to the island of Cyprus in the spring and procure queens, no other efforts were now necessary.

The matter was then laid on the table till Mr. King (who was not then in) should be able to make some explanation as to his Cyprian queens.

The Secretary read the following paper:

Wintering Bees, Theoretically and Practically Considered.

Another year has rolled away since we last exchanged our views at the National Convention at New York; but in the short space of one year many changes have been wrought; many lessons learned and many sorrows borne. Another season of rest and of toil of our busy bees has passed along the panorama of time, and its successes and reverses are now recorded on the page of history. Another severe winter has laid lifeless many thousand colonies of our lively insects that were gaily humming at the last National Bee Convention. Bee-keepers who counted their colonies by hundreds last fall, could in the spring find life only in a few solitary hives. The millions of busy workers that were so full of vigor and activity, had all succumbed to the hideous monster—death. And ever since, speculation has been rife finding a cause for this high carnival of death.

Various causes have been assigned for this dreadful malady: Too few young bees in the fall, bad honey, too much honey, improper ventilation, extreme cold, and long confiement.

All these theories are somewhat aged, and the two latter, in my judgment, destroy more bees than all the rest combined. Bees can endure very severe cold for a short time; but when cold after cold spell follows, and continues for weeks and even months, unless bees have the best protection, it tells upon their condition and dysentery ends the case. You may say, those wintered in-doors do not feel such effects. I say they do. The long continued cold affects the electricity of the atmosphere, and in some way—perhaps unknown to man—other changes take place and our bees suffer. In proof of this theory, I cite the numberless colonies of bees that perished the past winter, that were properly housed. If it was not an atmospheric effect, what was it?

In the by-gone days of scientific bee-culture, various plans for successful wintering had been devised; cellar wintering; wintering on stand or in bee-shed with plenty of air; hiding them in caves and burying in the earth; wintering under glass, and at last the impracticable and wild plan of summering North and wintering South, which sunk beneath its own weight of impossibilities at once.

Amusing cases also occur, for example: When a man uses a quilt and chaff covering to pass away moisture, and places a tarred paper direct on the quilt! What good does the chaff do in that case? He might as well have covered his quilts with a solid board, and a cake of ice would just as well answer then as chaff. Let us use reason and common sense with bees as we do in our other work, and they will fare better. Let us apply principles that are well understood, and we will secure the result desired.

Imagine yourself on a cold winter-night denuded of your clothing and stored away in a wooden box nearly air-tight, would not the moisture emanating from your body condense and form frost on the box, and would you not suffer extreme cold? But one says: "I ventilate my hives." All right, ventilate the box in which you are put to sleep, and how much colder do you get. This is the condition of bees in single wall hives on summer stands. In the cellar the case is somewhat different; but the air is damp and gaseous with the seeds of disease lurking in every corner.

Now change the scene, and imagine yourself closely surrounded on a cold night with some dry porous substance full of dead air spaces, that would allow moisture to escape insensibly and retain the warmth generated, and see how comfortable. This is why we use the proper kind of covering for our beds in winter, and can we not apply this same principle to our bees? Bees live on liquid food and consequently they throw off considerable moisture, both from the food and air which they breathe. We must get rid of this moisture and retain the warmth they generate. Direct upward ventilation will not do this, as the warmth escapes with the moisture, and without upward ventilation the moisture will condense and form ice, hence we must use a porous covering so as not to conduct the heat.

The following conditions are absolutely necessary for successful winter and spring management: 1. Abundance of bees; 2. A good queen; 3. Plenty of good sealed honey; 4. A frame of the proper size and shape; 5. Proper number of combs; 6. Passage-ways for the bees to pass from one side of brood-chamber to the other; 7. Protection for bees so as to keep dry and warm, and not feel sudden changes of temperature.

A goodly number of bees are necessary to produce the requisite warmth. A small colony cannot generate enough warmth in the hive during a cold spell in winter, and will suffer with the best protection. A good, vigorous queen, capable of laying at a maximum rate is needed to keep up the desired strength of the colony and for vigorous spring-breeding. From 30 to 40 pounds of honey should be in the combs above and rear-ward of the cluster the first of October; less would do to winter, but spring breeding would certainly be retarded. If bees have an abundance of sealed honey during spring, breeding goes on apace, whether the weather is favorable for honey gathering or not. A colony having only enough to barely winter, has but little brood when the weather opens in spring.

The size and shape of frame has much to do with successful wintering. A square comb will not do well as the honey is too much scattered, unless the frame is small like the "American," and then we must use too many combs. A comb twice as high as long is good for winter, but will not do for surplus. If we use more combs than the bees can cover at the end they cluster and the chances are that the colony will suffer considerably and in many cases starve.

Bees must have protection from sudden changes of temperature and be well guarded against cold and the collection of moisture within the hive. If this is done, bees will be comfortable and will not fly out until the air is sufficiently warm for them to return, and we can bid adieu to dysentery and "spring dwindling."

My system of winter management is very simple and easy. As much depends upon the domicile in which our pets are kept, I will first give a brief description of the hive I use. This consists of a hive or brood-chamber formed from the brood-frames and two side boards to which surplus receptacles can be added at pleasure and an outer case or house. Near the front end of the floor or stand is nailed crosswise a board 9 inches high and 18 inches long, for the frames to rest upon at the front end. Under the lower edge of this board is the entrance for the bees. The portico is attached to the front side of this supporting board. The house rests upon the stand; the rear end of the brood-frames rest on the floor. The ends of my frames are close fitting; top and bottom open. In winter the brood-frames are in the center of the floor, having a space of four inches between the sides and ends of frames and walls of house or case. The size of brood-frames 13x19 inches outside, giving me a comb 18 inches from front to rear, and about 10½ inches from top to bottom. By using this size frame, the bees have the sealed honey always above and rearward of the cluster—the warmest parts of the hive. As the honey in the fore part of the combs is eaten, the cluster gradually moves back. Bees cannot move from one side of the brood-chamber to the other on to new combs, in cold weather; they invariably chill. In this way many colonies are lost in hives using 8 or 9 frames. In each comb passage-holes are cut about four inches below the top-bar. If the combs are well filled with sealed honey, six frames are enough—I never use more than seven; for medium colonies five frames are ample, if well filled. In this way the bees never change and vacate combs. Across top-bars I lay three or four strips of wood ½ inch square, to prevent the quilt from resting flat on the frames. This leaves a passage-way across the top of frames. Over the whole a woolen quilt is spread somewhat larger than the top of the brood-chamber, and extends down at sides and ends; this attracts moisture by capillary attraction. The space of four inches between the brood-chamber and sides of the house is then filled with wheat chaff or fine cut straw, and 7 inches of chaff put on top of quilt, well pressed down. This completely absorbs the moisture and retains the heat.

The entrance to the brood-chamber is contracted to about one-half inch in width, and the portico nearly closed with the large portico slides, the entrances not matching, one being at the right side of portico and the other at the left, thus preventing cold or snow from entering direct.

With this system I have now wintered six successive seasons and have not lost a colony either in winter or by "spring dwindling." H. H. Flick.

Lavansville, Somerset Co., Pa.

The above essay was followed by the Secretary reading the following paper from Prof. J. Wilkinson, Baltimore:

Sub-Earth Ventilation for Wintering.

At the suggestion of several bee-keepers to whom I mentioned my views of the essential characteristics of a Bee-Wintering House, and explained how said characteristics may be best secured, I have prepared plans, detail drawings and specifications, which will intelligibly illustrate and explain my method of constructing, tempering and ventilating such a structure, in a manner to superlatively adapt it to all its purposes,—a consummation so long and so diligently sought in all honey-producing countries, yet never before attained. I will enumerate what I assume to be the essential requisites of the structure for which we are to furnish plans, etc, that it may be seen that all are embraced.

By cataloguing the characteristics to be supplied, we will arrange them in the order of their relative importance.

The essential characteristics of a bee-wintering house are:

1. Perfect ventilation.
2. Perfect quietude.
3. A proper temperature.
4. A uniform temperature.
5. A proper hygrometric condition.
6. Absolute darkness.
7. Simplicity and economy of construction.
8. Durability.
9. Economy of labor and materials in all manipulation pertaining to managing the stock and to operating the house.

The first essential is secured by the conjunctive use of sub-earth ventilation and ice. By sub-earth ventilation we can supply any required volume of air, superlatively purified, sufficiently dried, perpetually changed and uniformly tempered to about 50° Farenheit.

But we assume that a temperature of 50° is not as desirable and economical as 40° or 45° will be found, hence we have supplied the ice adjunct, so arranged that air transmitted by a subterranean air duct, may, (the whole volume supplied, or any required portion of it), be automatically passed through the entire contents of an ice house ere it is admitted to the bee room.

By this arrangement it will be obvious to all that the consumption of ice and the labor and care requisite in the arrangement of the tempering and ventilation will be reduced to the minimum.

The ice is handled but once *i.e.* in storing, in which manipulation there is no waste and when the valves in the ducts are adjusted, (a work of but few minutes) the temperature for which they are set, anywhere from 38° to 50°, will be maintained within a degree or two, perpetually, and entirely automatically, except the nominal cost for fuel and labor to maintain a small sluggish fire in a stove, in the base of the heated exhaust shaft. For heating the exhaust shaft, wood or coal may be used, though the latter is preferable.

The second essential, *i.e.* quietude, is secured by isolating the bee-room and by the insulation used in the walls and roof, consisting of five close air chambers, produced by diaphrams of concrete felt in the walls and roof, by which sound is thoroughly intercepted, as well as heat.

The third, fourth and fifth essentials are all secured in conjunction with the unique ventilation and tempering described, *i.e.* the proper and uniform temperature, and a thorough drying of the air admitted to the building, are all fully secured by means of the conjunctive use of ice and sub-earth ventilation; an achievement which challenges the admiration of all philosophic minds.

The sixth characteristic, or absolute darkness, is positively secured, for there is not a window in the house, and but one door opening, and that is furnished by inner and outer doors, closely packed, and there are to be two thicknesses of boards in each door, with a sheet of carpet felt between the boards, by which heat and sound is intercepted.

That the seventh essential are fully secured, *i.e.* simplicity and economy of construction, suffice it to say, that there is not to be a mortise or a tenon in the frame—not a window frame, but one door frame, no stairs, not a brick or a stone in the structure, except in the chimney, and not a dollar expended in decoration.

With regard to the eighth characteristic, desirability of the structure, it will be seen by careful inspection of the plans and specifications, that although the foundations are of wood, they are thoroughly protected against the agents of decay, by a simple and effective mode of flushing out the air chambers in the walls at will, with pure dry air, at 50 degrees, thus keeping the materials so dry and cool that decay is impossible.

Additional protection is added by sheathing the exterior of the foundations with corrugated galvanized iron, so placed that no water can possibly come to the wood, and the corrugations in the iron form a contiguous succession of perpendicular, ventilating tubes on the exterior face of the foundation, all of which connect with a drain, filled with screened gravel under the foundation, and said drain connects with a wall of screened gravel on each side of them, which gravel walls extend from bottom to top of the foundations, and that under the building connects with an air chamber which extends under the entire building, and said chambers connects with the heated exhaust shaft, thus conjunctively constituting the most efficient ventilation and tempering protection of the entire walls of the structure from decay that can be desired.

The ventilation of a bee house, as illustrated in design number 12, is simply perfect, and by means of the plurality of close chambers of confined air in the walls, the temperature of the building is under entire control.

Universal failure in controlling the temperature of bee-houses has attended all attempts by bee-keepers that I have seen, and it is mainly attributable to a want of a proper understanding of the subject of insulation, without which, failure is inevitable, even with an air supply as perfect as that furnished by sub-earth air ducts, of which the world acknowledges the writer the original inventor and patentee in the United States.

Sub-earth ventilation has been patented in Prussia and is being introduced there, but not with the degree of success that I have attained in this country.

I have obtained a copy of the Prussian patent letters and had them translated, and from the drawings and specifications it is very evident that the patentees lack a knowledge of the principles on which success entirely depends, and the attainment of which, simple as it appears, occasioned me many years of dilligent study, and numerous expensive experiments; but I feel that I am well rewarded for all the expenditure of time and money, for sub-earth ventilation has no rival, and is acknowledged by the ablest ventilating engineers in the world, to be a peerless system of ventilation, and its value in the arts, as well as for ventilating human habitations, is literally inestimable. I emphatically assert that it is impossible to make a success of wintering bees in close, unventilated cellars, or to hold the temperature of such a cellar, stocked with bees for a period of 4 to 5 months even as low as 50 degrees.

I also assert that if it is attempted to ventilate and to temper properly a cellar, by admitting the external air to it direct, at whatever its natural temperature may be, no amount of care and attention, even with the use of ice, can secure anything like a uniform temperature of 45 to 50 degrees, nor is it practicable to prevent the injurious accumulation of carbonic acid gas in a cellar, unless it is drained out by gravitation from the bottom of the cellar, or is exhausted by the method adopted in my system.

All who carefully study the plans and specifications for design 12, will see that the ninth characteristic viz: economy of labor and materials in all manipulation pertaining to the management of the stock, and to operating the house, is very marked, and that nothing is wanting; but, while the detail of the construction and the directions for the management of the house are very simple, failure may result from the non-observance of what may appear to the novice entirely unimportant, hence a faithful observance of all is urged, that full success may be obtained.

I know of no other method of constructing a bee-wintering house that will possess all the essential requisites of such a structure, fully and entirely, than that which I have described and illustrated in the plans and specifications of design number 12, which I respetfully submit for the inspection of all interested, and on which I invite the careful study and the most severe criticism, and I hope to see the opinions of the members who examine said plans, whether favorable or adverse, embraced in the report of this meeting, that those who were so unfortunate as to be unable to attend, may have the benefit of all your interesting deliberations, discussions and exhibits, which I frankly admit has been the sweetest and most interesting mental feast in which I ever participated, and I am forced to the conclusion that the votaries of no other art, on either continent, will realize the degree of profit from sub-earth ventilation, that apiarists will.

It supplies numerous essentials in a bee-wintering house and fills desiderate conditions, to attain which have ever baffled the combined intelligence and efforts of the most intelligent apiarists of the world.

Baltimore, Md. J. WILKINSON.

Prof. Cook stated sub-earth ventilation had been practiced with success for several years at Lansing, Mich.

Mr. Rice, Illinois, suggested Mr. Wilkinson was not a practical bee-keeper, and he (Mr. Rice) would like to know how he came to the conclusion his plan was practicable.

Mr. Clement, of Iowa, said he wanted nothing better than a properly-packed double-wall hive on the summer stand.

Mr. Heddon, Michigan, found the matter of light in a cellar made but little difference. He thought the disasters in wintering mainly attributable to the same cause—bad food. He thinks the honey becomes infested with a parasite, which creates the so-called dysentery and causes the death of the bees.

F. W. Chapman, Illinois, wanted to know how Mr. Heddon accounted for some colonies perishing and others alongside suffering but little.

Mr. Heddon thought the bees had not all gathered food from the same source, and cited some instances in support of his theory. The fact that the disease is not uniformly found is due to the other fact that the micro-coccus fungus is not equally distributed. Some bees found the nectar that was infected, others did not. Some years ago he wintered 39 colonies, all from his home apiary but one, which was brought from four miles in the country. All were prepared alike, but only three survived the winter, and and one of them was the colony from the country.

C. S. Schofield, Indiana, inquired if Mr. Chapman had old or young queens.

Mr. Chapman. Mostly or all young and prolific queens.

Mr. Rice, Illinois, packed with leaves in a shed, with a loss of four colonies. He called upon Mr. Ellerton to explain his method, who, he said, had lost none for years.

Mr. Ellerton, Illinois, said he put his hives on scantling four inches high, then packed between, behind and over them with straw, and placed a board in front to shield them from storm and sunshine. He lost none out of forty colonies thus protected. Four left outside perished.

Mr. Rice thought this knocked Mr. Heddon's theory in the head.

Mr. Jones, Ontario, being called up, said he wintered 300 colonies without loss. He extracts the unripe honey in the fall, and feeds with granulated sugar. He breeds till late, and fills each hive with all the bees it will hold; winters in a bee-house, and uses only a cotton blanket over the frames, keeping the temperature at 42° to 45°; to winter satisfactorily he wants strong colonies and mostly young bees; leaves 20 to 30 lbs honey in each hive, but feeds till late frost; gives no flight in winter. Is not fully satisfied out-door wintering, with proper packing, is not as good, but the saving in honey consumed will more than pay for the house. Has used sub-earth ventilation with success.

Mr. Heddon thanked Mr. Jones for proving his theory, in regard to bad honey, to be correct.

Afternoon Session.

Convention resumed regular order of business, Prof. Cook in the chair.

Communication was received from J. Y. Detweiler, delegate from Northwestern Ohio Association, inquiring if the North American Bee-Keepers' Convention for 1878 had any connection with the American Institute Fair.

Rev. O. Clute, Iowa, said that he supposed the inquiry was instigated by some party who had a private axe to grind, and therefore moved to lay the communication on the table. Carried unanimously.

F. W. Chapman, Illinois, Chairman of the Committee on Dissection and Analysis of President's Address, submitted a report recommending that the Society take some decided action to render assistance to Rev. L. L. Langstroth, the amount raised to be placed in the hands of the President for immediate remittance to the recipient. As to the adulteration of honey, they believed that by the earnest efforts of the honey producers the matter will regulate itself. They believed the matter of creating a home demand for honey was only secondary to the production of it, and a more general endeavor on the part of apiarists to introduce it into every home was earnestly recommended. In relation to that portion of the address relative to railroad tariffs on apiarian supplies and products, the committee recommended the matter to be placed in the hands of the Executive Committee with power to act. The report was accepted and adopted.

Rev. O. Clute moved a committee of one be appointed to solicit contributions for Rev. L. L. Langstroth, which was carried, and Mr. Clute was appointed said committee.

The subscription amounted to $153.50.

F. W. Chapman, Illinois, moved the adoption of a resolution, requesting commercial reporters of newspapers to use the words "extracted honey," instead of "strained honey." Carried.

Rev. W. F. Clarke, Canada, Chairman of Committee on Report of Representative to Europe, reported the following resolutions, which were adopted unanimously.

Resolved, That this Association has listened with much pleasure to President Newman's report of his trip to Europe, and hereby expresses its high appreciation of the able and successful manner in which he has represented the interests of American apiculture at the Honey Shows and Apiarian meetings of the Old World. It heartily approves of the efforts he has made to disseminate broad views as to the cheap production and enlarged consumption of honey, and thereby aided in securing a larger market for this important product. In view of the fact that President Newman's tour was wholly at his own expense, the special thanks of this Association are due, and are hereby tendered, to him for the eminent service he has performed.

Resolved, That this Association rejoices in the cordial and enthusiastic reception accorded to President Newman by the apicultural societies and leading bee-masters in Britain and on the the European continent, trusting that the harmonious feeling evinced may always be cherished by the bee-keepers of the world towards each other. This Association hopes that the friendly visit which has been made, will ere long be returned by some one or more of prominent apiculturists of Europe, to whom it will be our pride and pleasure to extend as hearty a welcome as that given to our Representative.

Resolved, That a copy of these resolutions be sent by the Corresponding Secretary to the apicultural societies of Europe visited by our Representative.

A. J. King, of New York, read a paper entitled "Humanity to the Bees." Mr. King spoke of several methods of inhumanity practiced by some apiarists, and believed that a law should be enacted punishing persons who are guilty of inhuman practices with bees.

The Rev. O. Clute, of Iowa, read a paper on

Increasing the Demand for Honey.

The fact that within a few years honey has fallen very much in price has alarmed not a few producers. They are almost disposed to give up their profession, because of a fear that prices will fall so low that a living cannot be made. But compare the prices paid for honey now and ten or twelve years ago, with the prices of flour, meat, tea, coffee, cotton cloth, and many other articles, and I think it will be seen that honey has held its own very well indeed. The price of honey now compared with its price ten years ago is, I think, larger than the price of most real estate now, compared with its price ten years ago. If honey will procure for its producer just as many of the comforts of life now as it would procure ten years ago, its price in reality has not fallen at all. It is just as valuable now as formerly, for it brings just as much value in exchange.

Instead of alarm at low prices, and a rapid retreat from the business, honey-producers should labor to bring their products to wider recognition, to increased consumption, to greater demand. Honey is beautiful, healthy, delicious. Nearly all persons like it. Show them that its price is such that they can afford to buy, and they will buy in increasing quantities. The taste, and the habit of buying, once acquired, will continue, and will spread among others, until honey will become as general an article of food as sugar and syrups now are. The energetic and far-seeing bee-keeper will look to this increasing demand and much larger market for a chance for a living income, rather than to a hasty retreat from the business, or to any temporary devices for keeping up the price of honey.

In order that the demand for honey may increase, and the business of honey-producing be put on a firm footing, attention should be turned by all bee-keepers to development of the market. To this development certain methods will tend.

1. Nothing but a thoroughly good article should be put upon the market. No foreign ingredients of any kind should, under any circumstances, be mixed with honey that is sold. If, from any cause, an inferior quality of honey is produced, it should be used for feeding the bees at seasons when they need extra feed to promote breeding, and so be consumed in the hive.

2. All honey, both comb and extracted, must be put on the market in attractive shape, so that it will please the eye of all who see it. The single-comb sections, and the crates with glass sides, seem to offer the most desirable package for comb honey. For retailing extracted honey, tin pails of different sizes will in time probably supplant every other package. I am not blind to the merits of glass jars and cups as receptacles for extracted heney, but the tin pails have excellencies in the way of size, strength, price, and ease of handling that are their own sufficient recommendation.

3. All honey should be classified into grades, and each grade should have a name by which it is known in all parts of the country. Then every producer should aim to have his honey the best of its grade. It would seem that our National Association could do an important work by carefully establishing and naming the grades of honey produced in all sections of the country. Possibly, some of the grades would extend over the whole country, and could be produced by every bee-keeper. Probably some grades would have only a local application, depending on flowers found only in a limited area. But whether national or local, the grades being once established and defined, all would have a standard towards which to work, and so the quality of the honey and the condition in which it is put upon the market, would both be improved and made permanent, and buyers, becoming after a time accustomed to the grades, would have a standard to guide them in purchasing.

4. To develop a permanent home market is usually wise in whatever business one is engaged. There is probably scarcely a hamlet in the whole country where the sale of honey could not be greatly increased. Individual honey-producers should see that every grocer in country, village, and city in their vicinity is supplied with good honey, nicely put up; and that the grocer offers it at a fair advance on the price he paid for it. Often a large amount of nice honey can be sold by peddling it from house to house. By thus disposing of a large part of the

honey crop at home, a better price can be secured for the part thus sold, and there will be a less amount for the markets of the large cities, and for exportation, and hence better prices can be obtained for this.

5. The demand for honey in the large cities could be indefinitely increased by a co-operative effort among producers. By a very large number of grocers honey is now not kept at all, or else is kept in small quantities, and in an unconspicuous way. It is put aside where it is scarcely seen in the grocery, and no systematic attempt is made to call to it the attention of buyers, by showing its quality and beauty and by stating its price. Now, let our National Association, or any other efficient organization of bee-keepers, establish an agency in each of the large cities, in charge of a good business man. Under the direction of this agent let the city be thoroughly canvassed, and every respectable grocer induced to take honey, to keep it on sale in a conspicuous place, to advertise it in the numerous ways known to the trade, and there is no doubt at all that the market in all these large cities could be very much extended. Through such agencies, a very large part of the honey crop of the country could be sold, without going into the hands of jobbers. It is probable that more than enough could be saved in not having to pay commissions to jobbers, to meet all the expenses of such agencies, so that from the first there would be an economical movement, and in the end would create a greater demand for honey, increase our business, and obtain for us higher prices.

6. A market for comb honey and for extracted honey is opening in foreign countries. It is but recently that this market began to assume important proportions. The modern methods of storing honey in single-comb sections, and of packing the sections in crates, enable it to be carried by rail and steamer almost everywhere. Our beautiful comb honey can now be put into the European markets at such cheap rates, that it seems probable only a few years will pass before we shall have a large and constant foreign demand, needing every year a large part of our crop to meet it. And extracted honey is so easily transported in barrels and tin cans to all lands and all climes, however distant, and is already commending itself so favorably to foreign consumers, that there seems no doubt but persistent pushing may ere long build up for it a large and remunerative demand abroad. The most recent word to bee-keepers, from a firm largely interested in exporting honey, is "to work their apiaries for the exclusive production of extracted honey." If at this early date in the history of the exportation of honey from the United States our honey receives such favor, there is surely good reason to anticipate that wise methods of work may ere long develop a demand that will readily take up whatever surplus may remain after our home markets are supplied. This demand could undoubtedly be rapidly developed by establishing agents in the principal European countries, who should bring our honey to the notice of wholesale and retail dealers, be prepared to prove its perfect purity against all charges and misrepresentations, and to put purchasers into direct communication with producers, or else to act themselves as agents for the sale of our honey.

If the considerations briefly and inadequately presented in this paper are true, there seems no insurmountable difficulty in increasing the demand for honey in all country neighborhoods, in all villages and small cities, and in all the large cities of our own country. It seems, too, that rational, well-directed efforts may increase the demand from foreign countries to very large proportions. O. Clute.

Iowa City, Iowa.

Mr. Jones, Ont., by request, explained his method of putting up honey. He had tried large barrels; but found his smaller barrels, holding about 100 lbs., the most salable. He waxes his barrels with paraffine, and finds a great saving in honey from leakage, as there is much less strain than on the larger packages. He could not recommend glass, as there would be loss from breakage. He exhibited 30,000 lbs. of extracted honey at the Fair at Toronto, and worked up a great demand then for it. He packed some honey for the interior in 10, 15 and 20-lb cans; these were shipped in strong wooden boxes. He had sold 60,000 lbs. this year,

Mr. Pammell, Wisconsin, found a home demand for all his honey, in 2-lb sections; the demand there being for comb honey.

Vice President Oatman being called to the chair, Mr. Newman addressed the Convention on the subject of packing and supplying honey; the development of the demand for it, and the present and future market for it in the extracted form.

Rev. O. Clute submitted a programme of a series of lectures before the Young Men's Christian Association, in which was announced a lecture by Mr. D. A. Jones, of Beeton, Ont., on "the Bee," and approving that method as being a good one for educating the masses of people in the matter of bee-keeping and honey consumption.

Rev. W. F. Clarke, of Ontario, suggested as a good text for Mr. Clute the following: "Butter and honey shall ye eat."

James Heddon, of Michigan, expressed the opinion that extracted honey was not only better than comb honey, but could be procured so much cheaper that it must inevitably be used instead. He had lately received a letter from an English honey merchant who stated that, although the English and continental crop was small, the price of comb honey in London would not be more than seven or eight cents per pound for the the present year. This, he said, was not a very strong inducement to ship comb-honey to Europe. He had found that this year honey is needed far more than last year, and ascribed it to the fact that honey is scarcer than usual. He was fully of the opinion that honey is not a staple article. He believed an attempt is being made to create an over-supply of honey in this country to glut the market, and to get the market price so low as to be unprofitable to produce it. He inquired of President Newman what had been the price of honey in England at the time of his visit.

President Newman stated that it retailed for about half-a-crown—60 cents a pound.

Mr. Heddon then said he was convinced that shippers were trying to overstock the home market, and induce the belief that honey shipping is attended with great difficulties.

Rev. O. Clute believed that the oversupply would in time create an increased consumption, as had been the case with cheese and strawberries. All that is needed is to call the attention of the public to its good quality.

James Heddon rose to ask a question. He wished to know how it was that if Samson long ago had raised honey in the body of a lion, where was the necessity now of laboring to introduce it, if it had good points of its own to recommend it.

Rev. O. Clute inquired if strawberries had not been raised in Samson's time; yet their profitable production and large consumption had but just now commenced.

D. A. Jones believed that the use of honey could be popularized by getting everybody to use it. He had noticed that the demand in his own neighborhood had increased. Fifteen years ago he could sell but 300 pounds at home, and now he has to keep 10,000 pounds to supply the local demand.

Mrs. Harrison, of Ill., has no trouble selling all the honey she can produce at a good rate. She makes a practice of calling the attention of those with whom she has dealings, to the quality of her honey, and generally effects a sale. She believed she could get all her conscience would allow her to ask for it, this year.

D. A. Jones had used tin cans for shipping honey, but much preferred small barrels.

Mr. Pettit, Ont., had tried glass jars, but his market required fruit jars, and in them he can sell all his crop.

Dr. Slade preferred fruit jars, as grocers generally furnished them and he filled them with honey for 12½ cents per pound.

E. J. Oatman, Illinois, moved the adoption of the following resolution, which was carried unanimously:

Resolved, That in recognition of their valuable inventions, Mrs. F. A. Dunham, of Depere, Wisconsin, and T. F. Bingham, of Otsego, Michigan, be made Honorary Members of this Society; the former for her superior foundation, and the latter for his valuable smoker.

It was moved and carried, that an evening session be held, convening at seven o'clock.

Evening Session.

The meeting was called to order at 7 o'clock by the President. An essay was read by the Secretary, entitled

Dysentery as a Bee Disease.

I will endeavor to shape this article to draw out discussion, and in doing so shall draw largely from an article over a fictitious signature in the AMERICAN BEE JOURNAL for June, 1879, having permission so to do.

What is the greatest and most discouraging drawback in apiarian pursuit, is it not the maladies of our bees? But there are only two that are seriously destructive, to-wit: Foul-brood and dysentery. Permit me to ask: With our present knowledge and experience, could we not have pleasure and profit far exceeding the present if we had some simple and cheap antidote or remedy for these two destructive diseases?

Foul-brood I believe has often been conquered, and the bees, hives, combs and honey saved, but it is not one-thousandth part as destructive as dysentery. Let us endeavor to find the cause and cure of the latter disease. It is true that in the Northern States there has been a coincidence, with the extreme cold winters and the dysentery; but has this disease never made its appearance in mild winters or milder latitudes? Has it not been fully as destructive in scientifically protected apiaries as those on their summer stands without protection? But few will doubt, that bees properly protected in winter are far more exempt from ordinary casualties! Many know that the best of atmospheric protection will not ward off this disease! If the extreme cold causes it, we must suppose that Maine, Vermont, Poland, northern Russia and Siberia, must import fresh colonies every spring, for those States have as long and continuously cold winter every year as New York, Michigan and many other localities in similar thermal latitudes had last winter, and the winters that the disease visited us some few years since with such fatal and wide spread results.

Again the disease has been charged to the juice of the apple, but is it not a fact that the disease prevailed in many apiaries out of the reach of cider mills?

It has been supposed and asserted that it was caused by late-gathered thin honey and that it soured before it was sufficiently evaporated to be capped over; with the splendid dry autumns in this latitude (especially that of last fall) is such a cause possible? I do not think so; but for the sake of the argument, suppose some honey of that kind is gathered, is it not probable that every drop was consumed between the first killing frost and the time the weather was too cold for them to take purifying flights? Two other obstacles are presented to the theory and reasoning of the benefits of purifying flights, and capped or thick honey. We know and assert without fear of successful contradiction, that they died as rapidly when being fed exclusively upon thick, capped honey, gathered in the preceding June and July and with the purifying flights of from once in two weeks to every day, from the middle of March to the time of fruit bloom. I am giving facts that occurred under my own observation, at a cost of twenty colonies, strong, well packed with chaff, with proper ventilation, and on their summer stands.

We, as well as many others have lost as large a proportion of our bees from dysentery when housed in perfectly constructed and ventilated depositories, as when left on their summer stands.

You, no doubt, expected me to give some preventive or remedy for this fearful disease. I cannot. I know of none. I can guess that it is honey-dew; can guess that to extract all of their honey in the fall, and feed them sufficient of sugar-syrup, they would winter well on it alone, or upon sugar-candy, into which a proper proportion of rye meal or some other substitute for pollen were incorporated. That they will live for at least six weeks upon plain sugar candy, placed in close contact, and at the top of the cluster, I know.

That all honey gathered in the summer months which is thick and capped over is not good to prevent dysentery, I know.

That the disease is caused by honey-dew, I suspect; that it may be caused by a condition of the atmosphere as suggested by the AMERICAN BEE JOURNAL, is possible.

Permit me to suggest that a committee be appointed from members of this Convention present, to experiment with two or three hives each, first by extracting all the honey and feeding a portion of the colonies with sugar syrup and a portion with sugar candy, either pure or with flour incorporated. I am really in similar darkness to most of the bee-keepers and the enquirer on page 262 of the current volume of the AMERICAN BEE JOURNAL. I want light and information.

Wayne, Mich. E. ROOD.

F. F. Collins, Texas, had never seen a case of dysentery in the South.

The Secretary then read an essay on

Fertilization in Confinement.

I so reduced my bees in the fall of 1878, by rearing successive crops of young queens for experiment, till in November, that I lost all but two colonies during the winter, and it was not till the first of August this year that I had colonies enough, to again continue my trials to work out a practical method of accomplishing the fertilization of a queen in confinement.

Long before I was ready to begin operations, there was published an article in the AMERICAN BEE JOURNAL written by H. L. Jeffrey, of Woodbury, Conn., stating that he had been able to have queens repeatedly fertilized when shut up closely in a nucleus with drones. He remarked that he did not consider it anything that could be made of practical use. If this arrangement would work generally, even if the author could not appreciate it, I thought I could. So the first experiment I tried this year was to shut up half a dozen young queens in nuclei with plenty of drones, and all things fixed as nicely as possible, as far as I could judge, to make a sure thing of it. I did this with great interest and hope, because it seemed to me, that, if this would work, it was the simplest and most practical way of getting queens fertilized in confinement or otherwise. I kept those queens there about a month, and they all had capped brood when I opened the nuclei to let the bees fly out. I think not one of those queens went out to be fertilized, although I have kept them standing till the present, they all went right on laying, but not a single worker-bee ever hatched from their eggs. That settled that theory to my satisfaction.

Well most of these young queens were daughters of a Cyprian—one of two queens imported in June by A. J. King and kindly furnished me for experiment, so I had Cyprian drones in a short time, in abundance. I next went about carrying out some plans I had matured during the winter of arranging two nuclei in the ends of my "long idea" hives to be composed of a comb each of just hatching bees and capped brood, with a virgin queen and a few drones, in a wire-cloth cage which would be kept warm by the heat of the hive, and connected with such small fertilizing cages as I used last season on the outside of the hive.

I rigged up six such nuclei, and waited and fussed with them till the young bees got old enough to come out into the cages as well as the queens, without getting a single one fertilized. Circumstances all seemed favorable, and I could account for the failure only on the supposition that the drones thus reared were good for nothing for fertilization. I rigged up the nuclei again, putting in the same queens and other drones, which I had by this time succeeded in rearing from the old queen, and the first afternoon, had three fertilized, and the next day, a fourth; and the remaining two had now commenced to lay drone eggs and did not come out again.

In watching the fertilization of these queens, I concluded that the fertilizing cages needed improvement. The bottom seemed to be too near the top and afforded too convenient a place for both queen and drone to settle and loaf, and this took up so much time as to be always annoying, sometimes causing failure, and making the process impracticable. So I decided to make the box longer from top to bottom, and when I was about it, I thought I would do it thoroughly. I sawed a foot board into two, lengthwise, cut off four pieces reaching from the ground to about the height of my eyes, nailed them together, making a long square tube 6x8 inches; I nailed a large piece of thick board to the bottom for a foot and put a pane of hot-bed glass over the top, and bored a small hole near the bottom for an entrance for the queen and drones. I set it near a nucleus containing a virgin queen nearly ready to be fertilized, and to this nucleus I attached a small fertilizing cage, so as to catch the young queen when she came out.

The next day the queen came out, was duly caught, and I let her run into my tall cage, and put in soon after with her, two or three drones. They all began to crawl and crawl, but after long waiting a drone flew up to the glass, and when he was once there, he staid. After a good while the queen next took wing; but she generally flew at one corner, and the drone at another. I concluded that there ought to be a dark border between the glass and the side of the box, so that the one could fly around the other when it was hugging the edge of the glass. I replaced the glass with a piece of board, while I could paste a border of black cloth around it. When I returned the glass, of course, all were crawling again, and they continued to do so till too late for anything else that day. With much difficulty I hunted the queen out of that box, and returned her to the nucleus, and concluded I would sleep that night over the state of the case. It seemed I wanted a larger box, one not so suggestive of crawling, which would furnish a wider dark border to the glass, and yet be better lighted by the window than if narrow.

Next morning, Oct. 11, I took an empty sugar barrel, clean and tight, with a cover fitting tightly over the upper hoop, and into this cover I cut a round hole about 4 inches across, in the center, and fastened a piece of glass against it on the under side. I now waited till I had the queen again in the trap, which happened about 2 o'clock. I put three drones with her and threw them all into the barrel standing in the bright sunlight, and quickly closed the lid. They all immediately flew to the glass, and before I had got ready to look at them fairly, the queen had mated with one of the drones. I took the barrel into a room and caught the queen and returned her to the nucleus. I had two other young queens, which I expected would soon be out, and I had traps then set to catch them; but in my anxiety to see if the thing could be done again, I could not wait for them to come out, so I went to the hive and caught one of these queens with a queen-cage and put her into the barrel with drones. She mated about as quickly as the other, I next tried the third and she likewise mated—not one of the three being in the barrel 5 minutes.

This was my last queen for the season. But I have done. I can hardly expect that every queen will mate as soon as these did; but the arrangement—simple as it is, accomplishes everything that seems to be necessary—namely, it induces the bees to fly without the loss of any time; to fly in close proximity to each other, and to keep constantly turning so as to notice immediately a mate when near; and so, I believe that queens can be put through the process with sufficient rapidity, to make the method satisfactorily practical. With the right kind of a fertilizing cage, it does not appear to be essential that the queen should be caught on her way out to mate. I think she should be confined to the nucleus till she is certainly old enough to mate, and then picked out and put into the fertilizing cage; but neither she nor the drones should be taken hold of with the hands nor squeezed or touched with any thing that would daub them in the least.

Observing this caution, I think that any bee-keeper who will try, can in this way have all his queens fertilized in confinement; while the trouble required is as nothing compared to the loss he can prevent, and the control he can exercise over the purity and improvement of his stock. J. HASBROUCK.

Dr. Parmly, of New York, said that he had offered $25.00 as a premium for an essay giving the plan for a successful accomplishment of fertilization in confinement. Prof. Hasbrouck gave such an essay last year and he has drawn his check for the $25.00. The Professor gave it into the hands of the President to be awarded this year for further experiments. He was glad the Professor had been successful with his plan this year.

Rev. O. Clute, Iowa, suggested this was a most important question, as it placed the matter of the proper fertilization of the queens completely under the control of the queen-breeder.

J. Balch, Ill., stated that in June last he had found two combs with queen-cells capped, which he removed and placed in nuclei. When the queens hatched he enclosed the hive with mosquto-bar. On the third day the young queen came out, struck the bar, and flew back, meeting a drone and was fertilized. The next day another came out, and was mated the same way; both produced good Italian workers.

Wm. Clement, Iowa, related an instance of a man in Iowa who had met with success in fertilizing a queen in a dry goods box, with a glass placed in one corner.

A. J. King, New York, related that a Mr. Davis had informed him he had good success fertilizing queens in confinement, by the N. C. Mitchell process.

Prof. Cook had tried every way he could think of, but without success. He had not used a barrel; but would try it next season.

Mr. Bingham, Mich., had two queens which were wingless, that some way became fertilized, and both laid eggs which produced worker bees. He asked Prof. Cook if it would not be well to extract the wings from some queens and note the result?

Prof. Cook—I have frequently cut one, two and three wings, but never have had them properly fertilized.

Mr. Clute, Iowa, offered the following resolution; which was adopted:

Resolved, That this Convention has heard with much interest the able essay of Prof. Hasbrouck, on "Fertilization in Confinement;" that we recognize the great value of the results attained; that we hope these results will prove to be generally practical, and that we extend to him our hearty congratulations over his success.

James Heddon, of Mich., read an essay entitled

Qualities in Bees.

I will try, in as few words as possible, to give you my opinion in regard to qualities in bees, and in different races. Of the German or black bee we have two types common to this locality—one, the small black; the other, the larger brown. Of these two varieties, I find the most desirable qualities with the large brown. After making this division in the German race, I will make another in the brown variety, by stating that I have seen these bees much more peaceful, and better workers, in some localities than in others. I will now make one more division with this same variety by further saying, that in the most prosperous apiaries I have seen some colonies of equal numbers that far excelled those by their side. This physiological difference that gave the apiarist so much better profit and more pleasure, is in no way to be found out except by a season's trial. There are no signs that reveal these differences even to the most expert. I feel that every bee-keeper present is fully aware of what I have stated above.

I will now take up the other popular race of bees—the Italians. The same divisions and subdivisions are in the same way applicable to that preferred race. We have two very distinct varieties of them, viz: the shorter bright yellow bees, and the long, leather-colored. In my acquaintance, every bee-keeper who has had both varieties, is enthusiastic in his preference for the long, leather-colored bees. My experience is the same. These bees possess more desirable qualities than all the other varieties mentioned. They do not, however, embrace a few of the valuable traits of character that we find in the large brown German bees. I may here mention that some of the hybrids produced by a cross between the dark Italian and light German, are in my judgment the very best bees we have; but it is important that the mother should be of the Italian variety. One very singular and unlooked-for, but acceptable fact, is that this hybrid is not excelled for good nature by any other bee that I have ever seen.

It might not be out of place to mention some of the traits of these dark Italians that make them so much preferred. They excel in good nature; in good behavior; as honey gatherers; as comb builders (all except the large brown German bee); most emphatically as breeders and vigilant watchers, being about moth and robber-proof; last, but first in importance, they have with me far excelled any other type of bees in wintering and living through sickness called bee cholera. In no other animal under the control of man do we see more of a disposition toward variation or sporting, both physiologically and characteristically considered.

Here, then, is a grand opportunity for man to improve this little race of animals, up to a standpoint yet hardly conceived of.

First, we must get it out of our heads that physical markings go hand in hand with mental traits. My experience, observation and reading convinces me that they do not. We must stop saying, "The Italians are the best bees." Bees with three yellow bands are called pure Italians.

Porter has such bees, and says they are not better than black bees. I believe him. Dadant has such bees also, and says they are much better than the blacks. I also believe him.

I once wrote that black bees were as good as Italians. Again, I wrote that they were nowhere near as good a bee. I never wrote a falsehood, if I knew it.

Black bees will compare more favorably with any Italians as honey gatherers, if white clover is the surplus crop, and near the apiary; but where long flights or deep nectaries are the order of the day, give us none but the long-bodied, dark colored Italians, and their lucky crosses with the large brown German bee.

Stop and think what a wonderful law of nature it is, that will almost certainly produce a hybrid bee, crosser than either of the races from which it was born. And stranger still, why should this law cease to exist when we cross the dark Italians with the light Germans. We need not at present look after the whys or wherefores, but let us take advantage of the facts, and make a march onward in the desirable qualities of our stock. No class of growers has a better chance to do this than we; first, because of the wide variations in the qualities of bees, and second, because of the rapid production of generations. We can have Miss Queen, Mrs. Queen, Grandma Queen and Great-Grandma Queen, all never having seen a night twelve hours long. For four years I have been working in this direction, and I feel that I am well paid for my trouble. Various and many are the methods that necessity has suggested to control the fertilization of my queens, and weed out all undesirable traits of character from that direction as well as from the others. (I hope to mention some of these plans under the topic of "Queen-rearing").

I am rather of the opinion that all of our Italians are hybrids, and I further think that a race of bees, or strain of any race, cannot be made to duplicate themselves. Further, we don't want any exact duplicates of bees, or anything else. We want better ones. We now have better ones than we used to have, and we are going to have still better ones yet, and so on, better and better. I believe we have some as good, if not more valuable strains of bees in America than can be found anywhere else. "Necessity is the mother of invention," and bees have got to be "business," to make the comb to hold the nectar that very frequently lies about loose, in the summer time, in this country. Their disposition is to have it all, and nature often hands it out so bounteously that it makes the little fellows cultivate habits of industry, together with solid muscles, to take it all in out of the wet and sunshine.

I think Mr. Pometta did well to take home an American-Italian queen. "Actions speak louder than words." JAMES HEDDON.

Dowagiac, Mich.

Mr. Hunter, of Iowa, said a black bee could sting him 9 times out of 10 before he could kill it; but with Italians he could kill 9 out of 10 before they could sting him.

Mrs. Spencer propounded the questions: "Are bees taxable property? If so, how, by whom, and how much?"

Mr. Wilcox. Yes.

Mr. Heddon. I have been assessed every year on my bees.

Mr. Winslow, Wis., has been taxed.

Dr. Slade, Ill., has been taxed for his bees; but in other parts of his county, assessors do not list them.

Mr. Grimm, Wis., has always been assessed one dollar per colony.

Mr. Collins, Texas, has never known bees to be assessed in his State.

Mr. Bingham, Mich., has always been assessed on his bees; but a party keeping but few colonies, is passed over.

Mr. Godfrey, Iowa, has made inquiries in many States, and finds about one in ten only pays taxes on bees.

Mr. King said, in New York bees are taxed 20 per cent.

The Secretary read an essay on

Bee Enemies the Bee-Keepers' friends.

In selecting this subject we have endeavored to present something new and yet true.

Many things in life we take as evil which in reality is for our good. The All-Wise Creator, for a good purpose, no doubt, has limited man's knowledge. Some things we know; but there are more things of which we know nothing; and some things we think we know and do not! To pretend to be very wise seems to be a natural failing or weakness of the genus homo! But few ever reach that eminence where they can see the utter insignificance of the whole sum of human knowledge; consequently the world is full of quacks, called by some scientists.

They will give you a long-winded theory, interspersed with foreign words, to make a show of wisdom, while what they tell you neither they nor anybody else know anything about. These quacks pervade every profession in life. They impose themselves on a credulous public with the expectation of adulation and reward. And our noble profession is no exception to the general rule. In every department they are found. They can tell you how to perform every operation from a possible fertilization of a queen, to the changing of the sex of the egg, and especially how to make a fortune out of nothing. This is one of the enemies of the bee. Thousands of hives are destroyed by novices in attempting to follow these quacks.

Dysentery and foul-brood, both from the same cause, are enemies that make their periodic slaughter without respect to persons. This is the great enemy of all; defying a stay in its progress.

Another foul-brood is that hoard of patent vendors, with their oily tongues and glib mouth. Samson-like, they slay thousands. Next is a less pretentious but just as important animal—the toad. He will walk up to a hive of bees with less timidity than either the quack or humbug-vendor, and take a position where he is prepared to take the "little busy bee" in out of the wet. However, this is not much of an enemy, and we rather admire his temerity, and do not know but he is entitled to all the poison and honey he can get; one probably the antidote of the other.

The bee-killer is an insect that belongs to a species of the genus, specie-resumption gold-bug. The way they can be told is by their long legs and proboscis, by which they are able to hold an enemy fast, suck out his life-blood, and yet be clear out of reach of harm. The difference between this species and another is not much: One takes the honey before we get it, and the other, after. With his long legs, (National banks) and his long proposcis (bonds), he is able to suck labor dry of any fruits with the greatest ease imaginable.

The great bugbear, bee moth, can hardly be classed as a bee enemy. It is more of an enemy to the bee-keeper, in that it prevents many sales of bees to the inexperienced.

Other enemies might be mentioned, but to be brief we will turn to the other side of the question. How are those enemies the bee-keepers friends? We answer: because they keep the stock of bees in the country so reduced that there is a market for both bees and honey. Without these enemies bees would become so numerous that there would be sale for neither, and our occupation would be gone.

Suppose that there was but one colony of bees in the United States to-day. In thirty years, with the moderate increase of one swarm from each colony, annually, there would be bees enough to establish an apiary of 100 colonies on each farm in the country.

With the present number of bees and the same rate of increase, in a much less time than thirty years, there would be bees enough to establish a colony on every acre of land in the United States. Methinks Jasper Hazen would then have lots of disciples, if not sooner.

These figures forcibly present to us the necessity of some mode to regulate the increase. If it was left to our choice we would undoubtedly select some other than dysentery or foul-brood. Even the "sulphur pit" might be preferable. Nevertheless, the present, probably, is the very best that could be devised for the best interests of the bee-keeper.

While all suffer alike, the most careful gathers up and saves what the inexperienced and careless let go to waste. Therefore, with a few bees, his hives are again soon re-stocked; while with the other, combs are destroyed by a brood of moth, and his hives go to waste.

It is the fiat of the Almighty that man "shall eat bread by the sweat of his face," and, possibly, his honey too; and although bees "work for nothing and board themselves," some of us have found out that we cannot have much honey without an effort.

Lawrence, Kan. N. CAMERON.

The N. E. Wis. B. K. Association having had some correspondence with the Postoffice Department on the subject of sending bees in the mails had sent it to the Convention to be read. Mr. Detweiler also presented a letter on the subject, which was read. After some discusion it was

Resolved, That Prof. Cook, D. A. Jones and President Newman be appointed a committe to bring the matter before the P. M. General and endeavor to have the ruling reversed.

A. J. King moved that the committee endeavor to have the comb foundation ruling also reversed. Carried.

An essay was read by the Secretary entitled

Are Cheap Queens the Most Profitable ?

The first question asked, when a man purposes entering into a new business or when taking up some new branch of his business is, Will it pay? The rearing of queens is now carried on by a great number of persons, and consequently the supply is increased to such an extent that the prices have fallen so much that men can scarcely afford to rear them at all. They must curtail their expenses as much as possible if they wish to make a living profit.

Certainly in all kinds of business, that which gives satisfaction to buyer and seller is considered the cheapest and most profitable. When a man invests in untested queens, the probability is that they may mate with black drones and if they do so, all his labor is lost. It would cost him no more labor and but little more money to introduce tested queens, and the result would be far different. Should he fail with his untested queens all will be lost, while on the other hand, he can refer to the seller, who will at once correct his loss.

Will not the introduction of untested queens into our apiaries prove detrimental to the bee business? As there is no incentive to keep colonies pure, will not our bee-keepers allow the purity of their stock to be lost?

If our apiaries become filled with impure bees, will not the business fall to the ground, and will not the few who keep their stock pure then make the money?

Smithsburg, Md. D. A. PIKE.

The members of the Association were decidedly opposed to the sale of untested queens, and fully agreed with the last essay.

The Secretary then read the paper entitled

Comb Foundation.

Can anything that is new or instructive to my fellow members of this Society be said on the subject of comb foundation after another year's trial and experiment?

Many of us were startled at the last annual meeting by the words of the able and practical N. N. Betsinger in giving his experience for that year and his words of caution, to "go slow." Evidently its use is extending each year, and that may in some measure be taken as an indication of growing popularity. No statistics are obtainable as to the amount used annually, but in the aggregate it must be enormous. Its use would not be long continued did we not find it profitable.

In my own apiary it has proved a success. Indeed, were I to choose between comb foundation and the honey extractor as auxilliaries, I would sooner dispense with the latter than forego the use of the former; not having found any serious trouble with sagging, which I guard against by building out in nuclei or small colonies and also in strong colonies while not actively storing honey.

I like the latter method best, for often in a single night have the cells been so lengthened and strengthened as to withstand ordinary strain.

However, I would say that my experiments have been made when no extraordinary or even full flow of honey was coming in, for we have had none such here for two years.

It seems to be so easy to control this matter of sagging, however, by a little care, that I have seen no necessity for trying the more expensive wire foundation.

If put into full colonies during any period of cessation from honey gathering, or in the brood-chamber where the queen will at once take possession, I have invariably found them to be duly strengthened before any strain comes upon them.

It seems to be a matter of importance that the top bar be made sufficiently stiff, and it is believed that it needs a stiffer bar than would be required for natural combs.

What are the advantages to the bee-keeper in the use of foundation? Among them may be named the more perfect control of drone-production; a matter of vital moment where purity in breeding is desired. Again because it enables us to multiply rapidly our combs in seasons when their possession alone may determine success or failure. Who that has had to cut away for the third time patches of drone comb, persistently built where it was not wanted, or who has after a few days of neglect found thousands of partly matured drones worse than useless in his hives, but will hail with delight the advent of foundation?

I cannot recommend the use of foundation for comb honey except as narrow starters, for while it is true that it may be worked down thin under favorable circumstances, it is equally true that "bone" is often found in the middle to the great injury of its market value. I have found no trouble with the flat-bottom comb, but with me bees do not take so kindly to that style as the naturally-shaped-cell foundation. Natural starters are preferable where they can be had. Some experiments were made with whole sheets of flat-bottom foundation with a view to their use as starters; but even in crowded colonies many remained untouched.

Thinking that some offensive material might have been used on the rolls, I wrote to the manufacturer and was assured to the contrary. I hope we shall hear from other members as to this new and really beautiful production introduced so recently. With many regrets that I am unable to be with you at this meeting, caused as it is by my strong desire to help redeem my state, by adoption, of the stigma of repudiation at the coming election, I wish to be with you heart and soul for the advancement of enlightened apiculture, and enclose my membership fee, $1.00, for 1880.

Charlottesville, Va. J. W. PORTER.

D. A. Jones had bought the second comb foundation mill that was made, and he still had the same one in use.

Messrs. Cook, Godfrey, Winslow, Schofield, King, and others expressed entire satisfaction in the use of comb foundation.

Adjourned till 9 a. m.

THURSDAY—Morning Session.

The Convention convened at 9 a. m., President Newman in the chair. The first business being the selection of the place for the next meeting; after some discussion Cincinnati was selected by a large majority, the time for holding that meeting being left with the Exective Committee.

On motion of W. F. Clarke, it was

Resolved, That the Chicago daily papers be presented with a vote of thanks for the very full report of our daily proceedings. Carried.

President Newman presented to each of the reporters a box of choice comb honey. This was greeted with general applause.

A. J. King, of New York, was called upon to state his experience with so-called Cyprian bees. He stated that he is not certain whether they are pure Cyprians or not. His bees are better than either the Italian or the common variety.

Prof. Cook said that if any pure Cyprians could be found in this country Mr. Julius Hoffman had them..

Prof. Cook exhibited and described a botanical collection of plants adapted to furnishing nectar to bees. His favorite plant was the Bokhara melilot, or sweet clover. A large number of other plants were exhibited.

A paper was then read by the Secretary on

A National Apiary and Queen Rearing Establishment.

When your Executive Committee requested me to write a brief essay to be read before your Convention, they were desirous that questions should rather be opened, and not exhausted; but thoroughly discussed by your distinguished assembly. I shall, therefore, make my remarks very brief. The title of my sketch is so suggestive, in my opinion, that it is unnecessary for me to propose in detail any plan of operation. I shall, therefore, only draw a few outlines, and leave the matter to the consideration of the distinguished gentlemen in Convention assembled.

My opinion is, that such an establishment would pay large dividends, and add greatly to the reputation and dignity of American enterprise in this direction, recognizing the fact that even now the learned apiarists of Europe are "looking for more light" from America, the time will soon come (if it has not already) when the United States, through the combined efforts and enterprise of our bee-keepers, will be the most reliable and leading mart of the world in all that pertains to bee-culture.

Suppose you were to appoint a committee in every State to solicit subscriptions for a National Apiary and Queen-Rearing Establishment, shares in the enterprise to be $5.00 each, redeemable the second year, after organization (to a limited extent) in goods from the establishment at the option of shareholders; say 25 States were represented, by 40 shareholders each, making in all $5,000, expended as follows:

200 acres of land, at $5.00 per acre	$1.000
2 tenement houses for workmen, at $300.	600
1 dwelling house for Superintendent	800
1 apiary or bee-house	100
1 work-shop	150
1 stable	50
215 colonies of bees in hives, at $4.00	860
6 months' salary of 2 men, at $35.00	420
6 months' salary of Sup't, at $65.00	390
Material for new hives, queens, etc.	330
Expenses of locating and organization	300
	$5,000

As regards the price of land, I am informed that first-class timber land can be bought at the present time along the line of the C. S. R. R., which is now fast being completed between Cincinnati, Ohio and Chattanooga, Tenn., at from $2.00 to $5.00 per acre, which would prove as profitable for the purpose as high priced land in any section of country. The timber alone on the land I mention, if utilized, would more than pay for the cost of land. The location for a large apiary cannot be excelled ; close to the borders, between Kentucky and Tennessee. The profits, if any, for the first year could be judiciously expended in further improvements.

An institution of this kind, where so many would be interested, each shareholder a customer, and each soliciting the patronage of their friends, with the endorsement and influence of the North American Bee-Keepers' Association, or National Convention, conducted on right principles with good management, it could hardly fail to pay a handsome dividend, and at the same time be an establishment which all American bee-keepers would eventually be proud of. Some may think it would injure our private business, but I cannot think so. I am led to believe that such an institution would rather tend to stimulate the whole bee-keeping interests and place our occupation in that dignified position the profession deserves. And it might be in a few years, that many young men who are seeking light and profitable employment, would gladly avail themselves of a course of instruction in apiculture at the National Apiary and Queen-Rearing Establishment.

Proper safeguards should be provided to protect the interests of every shareholder equally, and such officers elected that will guarantee the enterprise a success from the beginning, viz : President, one Vice-President from each State represented, a Board of Directors, Secretary, Treasurer, and Superintendent. The latter to make a monthly report, to be published in the AMERICAN BEE JOURNAL.

It is unnecessary at present to enter into further details. I offer the crude suggestions, for what they are worth, my object being to call the attention of the North American Bee-Keepers' Association to the propriety, or impropriety, of organizing a National Apiary and Queen-Rearing Establishment. W. WILLIAMSON.

Lexington, Ky.

James Heddon, Mich., said he was decidedly in favor of the project, and would at once nominate himself for Superintendent with a salary of $2,500 a year. He would be willing to guarantee that there would be no honey raised. It should be located at Petoskey.

The Secretary read an essay entitled

How to Prevent Swarming.

For several years we have had as many colonies of bees as we wished, but never enough honey. Therefore, our attention has been directed to how to prevent increase of bees and turn this over-production of colonies into augmenting the tons of surplus honey. Bear in mind that the directions I shall give are suitable for our location, and not for all places.

I do not stimulate in spring by feeding either in or out of the hive, for by such I would defeat the objects I have in view, viz : less increase and more honey ; for by artificial stimulating I cause my hives to be over-crowded, and in consequence have an increase of swarms to provide hives and surplus arrangements for, and but little or no honey from the old or new colonies.

Come with me (in your imagination) about the 15th of March to "Sweet Home" apiary ; you see my hives have just been placed on their summer stands ; they are double-portico Langstroth hives, having an entrance at each end ; the back entrance is entirely closed by one piece of wood, the front is nearly closed by two blocks. As soon as I find a colony strong enough to cluster outside I remove one-block from the front entrance, and repeat the same with the remaining front entrance block when necessary, and also with the back entrance block, thereby securing good ventilation and preventing in a great measure the hive from being overheated.

As warm weather approaches and the hot sun of summer causes the bees to still cluster outside, although both entrances are open, it becomes necessary that the hives should be shaded.

By giving plenty of surplus room for the storing of honey, and by extracting often enough from those hives we run for extracted honey, will keep them almost entirely from swarming. To give plenty of surplus room in those hives run for comb-honey is not so readily done. To accomplish this we use a double-portico Langstroth hive, which gives us room for four boxes of seven prize sections each, or 28 sections in all, holding about 42 pounds where tin separators are used. These sections have each a piece of foundation used as a guide and inducement to work in the box ; as a still greater and earlier inducement, we put in the center of each box one section filled, or nearly so, with comb, from which we have extracted the honey the previous fall. In these sections we wish to give them working room at all times to cluster, build comb and store honey that the brood combs may not be crowded with honey. As fast as these sections are filled and finished, they should be taken off and their places filled with empty ones.

By using worker-foundation and cutting out drone comb, we prevent the over-production of drones ; this excessive supply of drones we believe causes much of the swarming fever. We will reiterate what we said years ago in the AMERICAN BEE JOURNAL, that a hive in which there is no drone comb to raise drones will not swarm.

To sum up in brief, ventilate, shade, give plenty of surplus room and raise no more drones than you need, and those few from choice colonies.

But in spite of all these precautions, we will have many swarms ; to make these as few as possible with the least labor, we put the first swarm in a new hive, for so far we have found it useless to return the first swarm. We then mark on the slate (of which we are the inventor) of the old hive "'79, June 15, sw'd." On the slate of the new hive we put "'79, June 15, sw." In from 5 to 10 days afterwards we have a second swarm. While the bees are clustering we pinch all the queen-cells and then return the swarm, thereby putting an end to all swarming of that hive for the present.

You will see the use of the slate as a register in swarming, when the first swarm came off we marked on the slate "'79, June 15, sw'd." When the second swarm came we saw on the slate that they had swarmed a few days previous. By this record we then know that this is a second swarm to be returned. By this means our apiary of 250 colonies has increased but little for the last three years. D. D. Palmer.

New Boston, Ill.

Mr. Sherman, Mich., places a swarm from another hive, into that from which the swaam has come, saving the necessity of pinching queen-cells.

Dr. Ranney, Mich., being called, said he had no special way.

Dr. Slade, Ill., called for Mr. Oatman's experience.

E. J. Oatman, Ill., could not freely give his experience, as he has a series of experiments under trial, and has arrived at no satisfactory results. He believes he is developing a race of bees without swarming tendencies; it requires another year to determine the question. If it is successful, he will then make it public, but would not like to do so before, as it may prove detrimental to others.

A. A. Winslow, Wis., stated the method of a bee-keeper in Ripon, Wis., to be the same as that of Mr. Sherman.

C. S. Schofield, Ind., thinks he can control swarming by using a wire-cloth cage the size of a comb, enclosing it entirely, then place the queen in the cage and on the comb, with a little brood, and many empty cells. The bees build but two or three queen-cells.

Mr. Bailey, Wis., corrected statement of Mr. Winslow. Mr. Dart has not tried the method suggested, but intends doing so.

Mr. Godfrey, Iowa, thought Mr. Schofield's plan impracticable in a large apiary.

Afternoon Session.

The order of business being selection of the Executive Committee, the following were elected: T. G. Newman, Chicago, Ill.; C. F. Muth, Cincinnati, O.; E. J. Oatman, Dundee, Ill.; F. F. Collins, Dallas, Texas; A. J. King, New York city; D. A. Jones, Beeton, Ont.; William Pierce, Dayton, O.

The President announced that Gen. Le Duc, Commissioner of Agriculture, was present, and called upon him for a speech. The General volunteered to induce the general government to import and distribute the seeds of honey-bearing plants to a limited extent, and also to assist the committee in the matter of inducing the P. M. General to reverse his decision concerning the sending of bees by mail.

A proposition to amend the constitution in regard to lady members being admitted free was voted down.

An essay was read by the Secretary entitled

Shall we Induce People to keep Bees?

Many will answer this, Yes—a few, myself among them, will say, No! I think this indiscriminate advice to all persons, no matter what their condition of life or adaptability for the business, to keep bees, is all wrong and brings much discredit on our profession. People are urged to keep bees because they are poor or out of work, are sick and need the gentle (?) exercise, to ensure wealth and a return to health; especially are the invalids and ladies urged by all means to take up bee-keeping as the one thing needful for health and wealth. Our bee periodicals, and nearly all of our prominent writers, hold up in glowing colors the ease and advantages of a bee-keepers life, and but very little notice is taken of the very many who make bee-keeping a failure.

It takes hard work and lots of it, and plenty of money, too, to carry on bee-keeping as it ought to be, for profit. As to its being invalids' and gentle ladies' work, listen to one of them, which I quote from a letter of recent date from a New York bee-keeper: "I purchased a few colonies of bees last spring; I am sorry I bought any, and will sell again if I can, and unless my health improves, I shall dispose of most all the bees I have at some price, because bees require care and unless care be given them when they need it, they are of no value or profit whatever. I find it is busy, hard work to take care of bees as they should be, and for an invalid or sick person to think of taking charge of more than 3 or 4 colonies, is out of the question."

We tell of the great yields and large sales of the few, but very little of that which tells of the failures, disappointments and disgust of the hundreds is told, in comparison to what there really is to tell. Many start into bee-keeping with bright hopes of speedy and easy success, only to find in the end failure and "blasted hopes," because they were not adapted to the business and never would be. True, there are a very few who have gained wealth and good health by it, but they are few compared to those who fail. What other profession can you find where its votaries are so eager to have every one come and stick their finger in the pie, as we bee-keepers are? It reminds me of a flock of chickens, one finds a dainty morsel, and instead of eating it in peace, sets up his cry and starts off on a run with the rest all "tagging" after him.

It is natural enough for the supply dealers to want everybody to keep bees, but we bee-keepers ought not to want it, especially when we mislead them to their loss and our detriment. Our Conventions are said to be run in the interests of supply dealers, but they ought not to be. My ideas of the use of our societies, is to get bee-keepers to organize; to use as much as possible, uniform styles of hives and honey packages; to learn from each other the best methods of handling our bees, marketing honey, etc., and not to give dealers a chance to sell their wares and to induce more to go into the business; but to instruct what are already engaged in it. If a person comes along who wishes to start in bee-keeping, give him all the advice and information in your power; get him started right, or not at all. I don't wish to be understood that I am opposed to the bee periodicals or the supply dealers, for we need them both. But I am strongly opposed to inviting everybody to join our ranks. Brother bee-keepers of the National Convention, I have set the ball rolling, kick it whither you will.

Oquawka, Ill. WILL. M. KELLOGG.

J. Heddon, Mich., thought bee-keeping anything but a health-giving occupation.

A. A. Winslow found it quite health inspiring.

J. Heddon, had a statement to make and wanted it printed in the JOURNAL, About three years ago he was attacked by a complaint something like hay fever. Last summer he went to Petoskey, Mich., and was cured; but upon his return, on going to work in his honey-house, he was again afflicted.

Mr. Collins, Texas, suggested an immediate cure to be the application of 2 or 3 good, healthy Italian workers.

The Secretary read a paper on

Introducing Virgin Queens.

There is something strange, and to me unaccountable, in the antipathy of bees to a virgin queen not hatched among them, and even to one hatched in a cage within their own hive and surrounded by them on all sides. One would think that when queenless they would as readily receive a virgin queen as a laying one; but such is not the case.

It is a fact which every queen-breeder has found to his cost that a considerable per cent of the queen-cells introduced to nuclei or to full colonies are destroyed by the bees before the young queens hatch, and there is loss and delay in providing queens for them. To cage cells and introduce them is exceedingly easy. A queen nursery is easily constructed by any one who has any mechanical skill, and where queen-cells are plenty, and there are not hives ready to introduce them, they can be caged, put into the nursery, hung in any hive in place of a frame, and the young queen allowed to hatch. All this is easily and quickly done; but the trouble begins when we attempt to introduce these newly hatched queens among strange bees.

The first plan proposed was to place the newly hatched queen among the bees before she had colored, as soon as possible after she had emerged from the cell. But I, and doubtless others, have found that this plan is not uniformly successful. Sometimes the presence of a queen so introduced will be tolerated until another can be reared, when she will be destroyed. In other cases she will be hugged to death or stung within a few hours of her introduction. In some cases she will be received, and the experiment will be successful. In the swarming season, when honey is coming in plentifully, the plan would probably succeed in a large majority of cases, at other times but few would be received.

Some years ago I thought I had discovered a plan by which an apiary might be Italianized with neatness and dispatch; I caged a cell and put it into a hive where there was a laying queen. As soon as I found that the young queen had come out of the cell, I removed the old queen, and in twenty-four hours opened the cage, and allowed the young queen to come out. The experiment was completely successful, and I rushed into print, as an enthusiastic novice naturally would, and proclaimed to the world my valuable discovery. This was near the close of the season, and I did not have opportunity for further experiment until the next summer. Others took my advice, and I followed up the plan the next season, but the result was a pretty general failure.

When a queen-cell is caged and introduced into a queenless colony having eggs and brood from which a queen can be reared, the bees will, in many cases, destroy the young queen when liberated or shortly after. When she first comes out among them they may not seem to be hostile. Some of them may offer her food, and you may think she is perfectly safe, but in a day or two, if you find her at all, you may find her dead in front of the hive.

But there is one plan which with me has been uniformly successful, and that is to deprive the bees of all brood. When that is done it is as easy to introduce an unfertile queen as a fertile one; I have not failed in a single case, except in a few in which the queen got fast between the cage and the comb of honey put in for her subsistence, and died. Nuclei may be made by putting a sufficient quantity of bees with combs of honey and no brood into a hive, together with a caged virgin queen, and keeping them confined for not less than 48 hours, (72 would not be too long) when they will not return to the hives from which they were taken. The young queen may then be liberated with perfect safety, so far as my experience teaches me. It may be asked, Will not the bees desert the hive when the queen leaves on her bridal excursion? I answer, No! I have reared a great many queens in nuclei, and I have never given one unsealed brood to prevent them from leaving, and have never had a swarm to leave. I do not believe that there is the slightest danger of their leaving if they have plenty of honey, and the nucleus hive is not too much exposed to the hot sunshine, nor over-crowded with bees.

The best introducing cage I have found, one which I have very recently adopted, is made as follows: Take 4 pieces of wood about $\frac{3}{8}$ of inch square and 3 inches long: lay 2 of them down on your bench parallel with each other and 3 inches apart measuring from outside to outside; lay a third one against the ends of these two, so that the three will form three sides of a square, and with two ounce tacks, put wire-cloth over them. Now turn your cage over and tack wire-cloth on the other side. You now have a cage 3⅜x3 inches square with one end open. To close the open end take the fourth piece of wood, and cut a shoulder on each end so that the shoulder will fit tightly between the side pieces. Having put your queen into the cage press the wires of one side of it slightly into the sealed honey of one of the combs, and fasten it there by 4 slender wooden pins about 1½ inches long, 2 near the top and 2 near the bottom of the cage, run through the meshes of the cage and into the comb. One of each pair should be slanted upward and the other downward. Care should be taken to have room for the bees to pass between the cage and the comb next to the one on which it is fastened. Green wire-cloth must not be used, as I know to my cost. M. MAHIN.

C. S. Schofield, Ind., wanted information regarding the introduction of virgin queens.

E. J. Oatman, Ill., had not been always successsful in introducing such. During a honey flow, there is generally little trouble. When there is no honey secretion, he feeds a little, which lessens the hazard.

The Secretary read an essay entitled

Can Bee Culture be made Profitable?

Can bee-culture be made profitable; if so how? Can a duck swim; if so how? would be to me a parallel question. Like all other pursuits, bee-culture will not manage itself, as many who have undertaken it and failed, know by sad and costly experience. But to the one who means business and has the grit, I say yes, most emphatically, and point you to those who have become prominent by their success. I refer to Capt. Hetherington, Julius Hoffman, D. H. Van Alstine, L. C. Root, C. C. Van Deusen, and others of my own immediate neighborhood. There are many others in the Mohawk Valley and elsewhere, but I do not deem it necessary to name them. They are well known to most of you. It is true we know of none who have grown rich by this business. There is too much work about bee-keeping for a rich or a lazy man.

Although the bees "work for nothing and find themselves," a portion of the work which they cannot do must be performed by the bee-keeper. And here let me say that he who makes bee-culture profitable must have the same disposition to work that his bees have.

To establish the fact that bee-culture can be made profitable is our first point, but that fact is pretty well proven already. To give the reasons for failures to make it profitable is perhaps my best ground to work on, and I will say here, and you are all ready to admit it, that bees kept in the old-fashioned way cannot be made profitable any longer: on the contrary, every improvement which is found after trial to be such, should be adopted. All the means in our power to help the little fellows along, should be employed; and to accomplish this, we must first learn the business ourselves, both theoretically and practically.

To begin properly, get several good text-books, and subscribe for some good periodicals. Read them and get yourself full of the subject, so that you think of bees the last thing at night, the first thing in the morning and through the day. If you do this you will get some theory—perhaps too much. Now for the practical part: go to some good bee-keeper and hire yourself to him for a season, or if he will not hire you, give him your services. (It will pay in the end if you mean business). After passing through this course you are ready to try a few colonies on your own hook. Let it be only a few at first and increase only so fast as you are able to attend to them thoroughly. Remember that a few colonies, well kept, pay better than a good many half-kept. Do not think, when the honey season is over and you have harvested your crop, that the work is done. Not so; you must think and study and work for next season. A good and successful bee-keeper is one season ahead all the time, with his work, and no one can calculate his success by one season—take the average for five at least.

Bee-culture to be made remunerative must not be made a side issue. It must be the first business of the proprietor, and he must not have too many "irons in the fire" to divide his time and thought. The bee-keeper must not only work with his hands but also with his brain. Calculation must be made in winter for the following spring and summer. It would be well to lay out a definite or systematic plan. This being done, make all the necessary preparations in winter.

A good location has everything to do with making bee-culture profitable, and by a good location I mean not only that bee-pasturage must be abundant, one crop succeeding another through the season, but that the apiary should be located in a favorable spot. A hill-side sloping to the south-east is very desirable. Protection from high winds is a great necessity. In fact, success in wintering in northern latitudes depends largely upon a warm and sheltered position for the apiary.

Canajoharie, N. Y. J. H. NELLIS.

Mr. Heddon, Michigan, thought bee-keeping, to become profitable, must eventually be concentrated in the hands of specialists; that farming and bee-keeping did not assimilate as much as carpentering and bee-keeping; that times were not going to become better for the average bee-keeper, and that we should not be too ready to advise everybody to go into it.

Dr. Parmly, New York, believed it was better to persuade intelligent persons to keep a few colonies.

Mr. Jones, Canada, disagreed with Mr. Heddon and illustrated his argument by the names and addresses of several persons, combining bee-keeping with other occupations.

Prof. Cook, Mich., thought no one should keep bees who is not determined to make the business a success.

Mr. Collins, Texas, thought it better in his locality to persuade others to go into bee-keeping.

C. O. Perrine, who had just arrived stated that he had made quite a number of attempts and failures in trying to conduct a floating apiary. He was now prepared to advise that bees be kept as far as possible from large bodies of water. Last year he had lost all his working force of bees in two days from a cold wind, they fell into the water and perished. He has still a full belief in the migratory system, but will hereafter move his bees from the north to the south on the cars. This will only cost about $100.00 for a car-load holding from two hundred to five hundred colonies. He intends to bring all his bees south in this way for the winter, and back north for the summer. He would come north about April 1, as no honey can be had in the south during the summer months.

T. F. Bingham, of Mich., was called upon and gave his experience with migrating bees. He had found that the loss of brood was the most serious obstacle which he met with in shipping by rail. He had come to the conclusion that he would have lost less by leaving his bees at home in the north.

Question by T. M. Marquis: What is the best method of securing straight combs?

E. J. Oatman: By using foundation.

L. M. Wainwright: Put the frames a little closer, or put an empty frame between two full frames.

J. L. Harris, Ind., moved that the evening session be held at the office of the AMERICAN BEE JOURNAL and that the $5.00 saved in hall rent be contributed to the Langstroth fund. Carried.

C. S. Schofield, Ind., moved that the President procure likenesses of Langstroth, Dzierzon, Huber, &c, and have copies made for sale. Carried.

The following bills were presented and ordered to be paid. Rent of Lyceum Theater $35.00. Executive Committee's general expenses $20.00.

Letters were read from J. H. Nellis, C. F. Muth, S. C. Dodge, W. S. Fultz, N. Cameron, T. B. Williams, J. M. Hicks, Dr. J. P. H. Brown, A. E. Wenzel and many others who had sent implements for exhibition.

Evening Session.

The President called the meeting to order at 8 p.m.

On motion the Executive Committee were requested to prepare badges for those who may hereafter attend the National Conventions; also they were instructed to procure medals to be awarded for the best exhibition of bees, honey and implements for the apiary.

By request C. C. Coffinberry gave an address on preparing comb and extracted honey for the market, and strongly advised the use of small barrels for the latter.

C. O. Perrine said he sold 20 lbs. of extracted to 1 lb. of comb honey; for the latter he preferred the unglassed section, holding about 1½ lbs. He desired the Association to appoint a committee to visit Louisiana next March for the purpose of information. On motion this matter was referred to the Executive Committee.

Mr. Collins of Texas, gave a description of the usual way of managing bees in the South. They were hived in hollow gum-tree logs, and many did not know how many colonies they kept nor how much honey they took. When they wanted to go to market they simply smoked and robbed some of them, and took it, comb, strained-honey, bee-bread, and young bees all together, and sold it, for not a great price, of course. He was anxious for more information to be disseminated as to bee-culture among the people.

After further discussion the convention adjourned, to meet next year in Cincinnati.

Articles on Exhibition.

Mrs. F. A. Dunham, Depere, Wis., comb foundation mill.

James Heddon, Dowagiac, Mich., bee feeder.

Ch. Dadant, Hamilton, Ill., sheets and samples of comb foundation.

J. E. Moore, Byron, N. Y., crates of sections with his perfection caps, with and without honey.

Chas. Sonne, Sigel, Ill., box of specimens of *asilus Missouriensis*, (bee enemies.)

Prof. A. J. Cook, Lansing, Mich., specimens of honey flora.

Dr. J. P. H. Brown, Augusta, Ga., specimens of southern honey plants.

F. F. Collins, Dallas, Texas, specimens of cotton bolls.

G. McPherson, Chicago, Ill., frame holder.

J. H. Nellis, Canajoharie, N. Y., box of samples of apiarian supplies, and *Bee-Keepers' Exchange*.

T. F. Bingham, Otsego, Mich., samples of honey knives and his new bee smokers.

J. Van Deusen & Sons, Sprout Brook, N. Y., samples of flat-bottomed comb foundation.

H. H. Cheney, East Saginaw, Mich., atmospheric bee feeder.

J. M. Shuck, Des Moines, Iowa, bee smoker, bee feeders, and model of his Universal hive.

J. W. Winder, Terre Bonne, La., introducing cages.

H. Scovell, Columbus, Kansas, two smokers.

H. K. Cotton, Mt. Vernon, O., hive with movable inside straw packing, and glass feeder.

T. S. Bull, Valparaiso, Ind., crates of comb honey and jars of extracted honey, swarm catcher, and comb foundation made on German plates.

J. W. Bailey, Ripon, Wis., swarm catcher.

Elvin Armstrong, Jerseyville, Ill., Centennial hive and samples of comb and extracted honey.

C. L. Sweet, Cook Co., Ill., bottle of white clover honey.

George Thompson, Geneva, Ill., honey mead and honey wine.

A. E. Wenzel, Callicoon, N.Y., model of hive with iron clamps, put together without nails or screws.

A. G. Hill, Kendallville, Ind., American hive, and gas-pipe honey extractor, hive cover packed for wintering.

A. J. King, New York City, bee smoker and model of Eclectic hive.

J. L. Harris, Wheeler, Ind., bee hive and block for sawing mitred corners.

W. J. Plecker, Galesburg, Ill., automatic machine for nailing honey boxes.

R. R. Murphey, Garden Plain, Ill., Langstroth hive and surplus boxes.

THOS. G. NEWMAN, *President*.
EHRICK PARMLY, *Secretary*.

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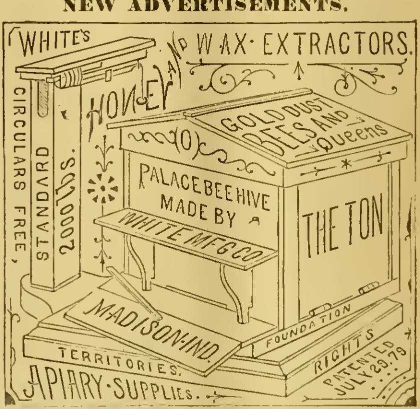

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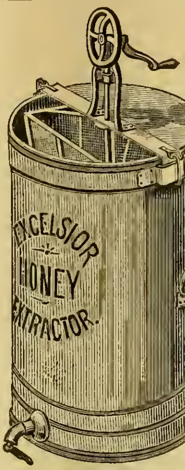

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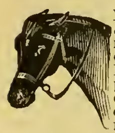
My Annual Catalogue of Vegetable and Flower Seed for 1880, rich in engravings from photographs of the originals, will be sent free to all who apply. My old customers need not write for it. I offer one of the largest collections of vegetable seed ever sent out by any seed house in America, a large portion of which were grown on my six seed farms. *Full directions for cultivation on each package.* All seed *warranted to be both fresh and true to name*, so far, that should it prove otherwise, *I will refill the order gratis.* The original introducer of the Hubbard Squash, Phinney's Melon, Marblehead Cabbages, Mexican Corn, and scores of other vegetables, I invite the patronage of *all who are anxious to have their seed directly from the grower, fresh, true and of the very best strain.* **New Vegetables a Specialty.**

12-4 JAMES J. H. GREGORY, Marblehead, Mass.

KENDALL'S SPAVIN CURE



Is sure to cure Spavins, Splints, Curb, &c. It removes all unnatural enlargements. DOES NOT BLISTER. Has no equal for any lameness on beast or man. It has cured hip-joint lameness in a person who had suffered 15 years. Also cured Rheumatism, corns, frost-bites or any bruises, cut or lameness. It has no equal for any blemish on horses. Send for illustrated circular giving POSITIVE PROOF. Price $1. ALL DRUGGISTS have it or can get it for you. Dr. B. J. Kendall & Co., Proprietors, Enosburgh Falls, Vermont. FULLER & FULLER, Agents, 22 Market street, Chicago, Ill. 12

FLAT-BOTTOM COMB FOUNDATION. —High side-walls, 4 to 16 square feet to the lb. Circular and samples free.

J. VAN DEUSEN & SONS, Sole Manufacturers,
12 Sprout Brook, Mont. Co., N. Y.

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A Monthly Magazine devoted to Agriculture, Horticulture and Rural Economy. The oldest Agricultural Journal in Maryland. Terms $1.00 per year, in advance. Published by Ezra Whitman, 141 W. Pratt street, Baltimore, Md.

THE MARYLAND FARMER has a larger circulation, and will be read by more Farmers, Planters, Merchants, Mechanics, and others interested in Agriculture, than any other paper which circulates in the Middle or Southern States, and therefore is the best medium for advertisers who desire to extend their sales in this territory. 12-2t

SECTIONS! SECTIONS!

Before ordering supplies elsewhere, send us a 3 cent stamp for a sample of our beautiful snow-white poplar Sections, dovetailed or to nail. These are the nicest and cheapest sections in the world; this no one will deny. Bee hives and other supplies made to order very cheap.

☞ Illustrated circulars free.

A. E. MANUM,
12-3t Bristol, Addison County, Vermont.

CHEAP HIVES,

Honey Boxes and Sections.

Material planed on both sides, for a one-story, 8-frame Langstroth, movable-frame hive, with 7-inch cap, including all of material for a complete hive, prepared ready to nail, for **50 Cents** each. Nailed and finished complete, **75 Cents**. Other sizes proportionally low. We have improved machinery, specially adapted to this manufacture, and are able to get out a No. 1 hive at these low prices. (THEY ARE NOT POOR BECAUSE CHEAP.) We will also give a liberal discount from these prices on orders of 25 or more at a time. Dove-tailed honey and section boxes VERY CHEAP.

We make the **LEWIS SECTION**, all in one piece—the **FINEST IN THE WORLD.**

☞ Send for Price-List.

LEWIS & PARKS,
12 Successors to G. B. Lewis, Watertown, Wis.

DOOLITTLE

Desires to place his Bee-Keepers' Club-List (if they have not already received it) in the hands of every bee-keeper in the land. If you wish to save money, put your address, plainly written, on a postal card, and direct to G. M. DOOLITTLE, Borodino, N. Y.

Advertisers will make money by advertising in the

WISCONSIN FARMER,

Published at FOND DU LAC.

The only agricultural paper in the State. Send for sample copy and rates of advertising. 12-2

BARNES' PATENT

Foot-Power Machinery

CIRCULAR and SCROLL SAWS

Hand, Circular Rip Saws for general heavy and light ripping. Lathes, &c. These machines are especially adapted to **Hive Making.** It will pay every bee-keeper to send for our 48 page Illustrated Catalogue.

W. F. & JOHN BARNES,
Rockford, Winnebago Co., Ill.
junely

94 COLONIES OF BEES

FOR SALE.

Mostly Italians, in Langstroth hives, double-wall, winter-proof, in best possible condition; all straight worker combs. Price, **$6.00** per hive. Address,
12-tf A. W. SORY, Devall's Bluff, Ark.

DUNHAM

COMB FOUNDATION MACHINE.

Having put in new machinery, I can manufacture much cheaper than heretofore, and will give Bee-Keepers the benefit of the reduction. I will sell strictly first-class machines, of the best workmanship, at the following rates:

12 inch rolls	....	**$57.00**
9 " "	....	**38.00**
6 " "	....	**27.00**
4 " "	....	**19.00**

I will make a cheaper machine when desired, but do not warrant or recommend it. Send for circular, and also read the wholly unsolicited editorial on Comb Foundation, in the AMERICAN BEE JOURNAL for August, 1879, page **340**. A machine can be seen at said office. I received orders for twelve Machines during the week of the National Convention, from D. A. Jones, of Beeton, Ont., and J. Oatmon & Sons, Dundee, Ill., among others.

Inventor and sole manufacturer,
12 MRS. FRANCES DUNHAM, Depere, Wis.

THE AMERICAN BEE JOURNAL

Devoted Exclusively to Bee Culture.

VOL. XV. CHICAGO, ILLINOIS, DECEMBER, 1879. No. 12.

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Editor's Table.

☞ Our usual Foreign Department is crowded out this month. We shall have it full of very interesting matter in our next month's issue.

☞ The Editor expects to attend the Michigan State Convention to be held at Jackson, Dec. 10th, and the Indiana State Convention, to be held at Indianapolis, January 13th.

☞ Be sure to see that the bees have enough honey to winter on. If they have not. they must be given either combs from other hives or fed with honey or sugar syrup.

☞ Capt. J. E. Hetherington, of Cherry Valley, N.Y., the greatest honey producer in the world, was married on Thursday Nov. 20th 1879, to a lady of South Norwalk, Conn. May his future be as *sweet* as the honey, the immense yield of which has made his apiary notorious, the world over.

☞ We have bestowed a great amount of labor on the very complete annual Indexes to be found in this number. They will be found exceedingly valuable by those who keep the BEE JOURNAL, for reference. Those who provide themselves with a Binder, will be astonished at the great convenience it gives them for consulting back numbers of the BEE JOURNAL. Read again what Mr. Heddon says of these Binders, on page 352 of the August number.

Lady Bee-Keepers.

We have received a letter from a prominent lady bee-keeper, who attended the National Convention in this city in October, in which she criticises the action of the male members, as follows:

> I do not think women had as good an opportunity of accquiring knowledge at the late meeting as men. When I entered the roll of bee-keepers, I determined to learn everything that there was to be known about bees; to this end I have bought books and subscribed for periodicals.
>
> I came to learn all that I could, and put up at the hotel, in order to converse with bee-keepers; but I was expected to go up into the parlor, and the men remained below in the office, where it would not have been considered proper for me to remain. I tried to be seated at the table with bee-keepers, in order to hear them converse, but only succeeded in doing so once or twice.
>
> I do not want any favors in a bee meeting on account of sex. I know Dr. Parmly did not consider ladies as members of the Association, for he did not call their names until his attention was called to it. He did not ask any of us to join, till we insisted on doing so. I heard him say that he wanted to take the names of the ladies present, but he did not say as members. There were ladies present, who cared nothing about apiculture and said that they came with their husbands to see the city. Practical apiarists, that were women were classed with those who came for amusement and to occupy an idle hour.
>
> The idea of ladies voting as members of the Association, that hardly know a bee from a hornet. Let practical apiarists who are women, join the Association, and ladies who are visitors be known as such; then our bee brothers would not be afraid if they sought our society in the parlor and accompanied us to the hotel table, that we expected them to foot our bills.
>
> That night that we were at the JOURNAL office, as a lady we were expected to sit in a chair; but we wanted to hear the talk; so we stood on tip-toe, with men about five deep between us and those who spoke in order to hear what they had to say.
>
> There is a great deal said now about employment for women, and they will be crowding into the ranks of bee-keepers, and do let them have a chance.

Some of the matters complained of can only be corrected by the advancing sentiment of the age, such as hotel etiquette for ladies, &c.

We were in favor of changing the Constitution to admit of the female members, paying the same as the males, and we think our fair correspondent is quite right in her distinction between apiarists and visitors among her sex.

At the meeting held at the JOURNAL office, we had not chairs enough to give all a seat, and out of courtesy only we offered the ladies the chairs, but if any desired to stand and hear the talk, of course they were at liberty to do so.

◆

DOLLAR QUEENS.—Not only is it detrimental to the interests of apiarists at large to have *cheap* Queens sent all over the Country, but we learn that it is also detrimental to the breeders. One of those extensively engaged in this business has written to us as follows: "I find myself $150.00 poorer now than I was in the spring. Unfavorable weather for queen breeding has nearly ruined me. I had to raise 2000 queens to get 1000. I never saw such bad weather for young queens to fly. Other queen breeders are in the same boat." We are exceedingly sorry to hear that any one should be thus annoyed and perplexed in business, but it is quite time to consider the question—"Does it pay to have such stock either raised or sold?" Another queen breeder said to us a few weeks ago: "In putting up an order for dollar queens sometime since, I looked through the yard and gathered up all the poorest queens I had, such as I should not consent to have remain in my yard, and sent them. I could not afford to sell any queen that I would keep in my own yard for one dollar." This gives *both sides*. It neither pays to breed such, nor does it pay to buy *cheap* queens. The true way is to buy the *best*, and pay a reasonable price for good stock!

◆

☞ Mr. W. H. Hoge, of London, has been commissioned by the United States Government to investigate and report upon the foreign outlet for American honey.

◆

☞ As a result of the exposure of the fearful extent to which the adulteration of syrups is carried, we are creditably informed that Minnesota has decreased her orders for syrups to less than one-half of what it formerly was.

Honey Yield.

In our last issue, we stated that Mons. Bertrand had a yield of 59 lbs. of honey from each of 8 colonies in his mountain apiary. A correspondent makes the following remarks concerning it:

> In your November number, page 481, it is stated that a Swiss apiarist obtained 59 lbs. of honey per colony of 8. There seems to be no reason for mentioning it except as something uncommon. It is nothing uncommon about here to get much more than that from a series of colonies.
>
> I removed my apiary in the fall of 1876 to a new place. The colonies were not in good condition, but the following statistics will show the product of honey and swarms:
>
> In fall of 1877, I received 50 lbs. of honey from each colony, with an increase of 50 per cent.; in 1878, I got 150 lbs. of honey, and 66⅔ per cent. increase; in 1879, I got 110 lbs. of honey, and 120 per cent. increase.
>
> But I have yet to see how they will get through the winter. Several years ago one of our apiaries yielded about 175 lbs. per colony. I do not remember the exact figures. Still I think 50 lbs. per colony, with 25 per cent. increase, ought to satisfy any reasonable person.
>
> Cincinnati, O. H. W. S.

The incident was worthy of notice only because of the general lack of the honey yield in Europe, and that the apiary in question was situated on one of the mountains of Switzerland, where it is usually quite cold. It will never do to compare the honey yield of any part of Europe to our own. With the immense number of our honey-producing trees, plants and shrubs, and our usually good climate for the production and gathering of honey, there can be no doubt of our retaining during all "the ages to come," the gratifying position of being the best honey-producing country in the world.

☞ Mr. Perrine has had another fire in his honey store in this city. The damage was covered by insurance.

☞ Mr. J. Ansley asks how to cleanse beeswax. On page 561 of this number of the JOURNAL, Mr. Scudder describes his method of doing it.

Queen Bees by Mail.

The following is a copy of the memorial adopted by the Northeastern Wisconsin Bee-Keepers' Convention, held at Watertown, Wis., Sept. 2-3, 1879.

> HON. J. N. TYNER, 1st Ass't. P. M. General:—Feeling that the ruling by you in excluding queen bees and comb foundation from the mail (with proper regulations in regard to packing them), are both unjust and oppressive, our committee have been instructed to prepare a memorial to you requesting your attention in regard to it. Many persons live far distant from any express office, and are unable to obtain either queen bees or foundation, except through the mails; and while we could never urge that as a reason that any thing that could by any possibility damage other mail matter should be admitted, we feel that it is an additional reason why we should urge our rights as citizens. After dilligent inquiry, we have failed to find that either of the forbidden articles have in any manner caused damage or inconvenience in the mails, and you will bear in mind that when the matter was brought to the attention of Congress, although no vote was taken, it was the expressed opinion of several Congressmen, and the tacit opinion of others, that any Postmaster ought to know that a queen bee was not a live animal within the intent of the law, and thus left the matter in your hands. Will you not make another appeal to Congress by bee-keepers unnecessary?
>
> H. P. SAYLES,
> A. A. WINSLOW,
> J. S. KITTELL,
> *Committee.*

This, with several other documents bearing on the subject, was read before the National Convention at its late session. A committee was appointed with Prof. Cook as chairman, to bring the matter before the Post Master General and to endeavor to get his decision, excluding bees from the mails, reversed. Prof. Cook has already started for the East and will visit Washington and interview the P. M. General before his return. He has taken a new queen cage, to submit to the department—one that ought to be perfectly safe—meeting all the requirements of the Postal regulations. We shall report the result as soon as the Professor returns.

☞ Mr. G. M. Doolittle reports, on the 8th of November, 3 feet of snow had fallen in Onondaga county, N. Y. In Chicago up to that time we had only an inch, and now the ground is bare.

The Langstroth Fund.

The following letter from Mrs. A. L. Cowan has been received, acknowledging the receipt of the money collected at the late Convention. We shall be glad if those who subscribed and did not pay, will send on the amount so that we may forward it to Mr. Langstroth. Any others who would feel it a privilege to contribute their "mite," may also send it to us:

Oxford, O., Oct. 29, 1879.

MR. THOS. G. NEWMAN—*Dear Sir:* I exceedingly regret that the kindness of my father's many friends can at present meet with no better recognition than an expression of thanks by my hand. Your favor of the 25th inst. was received yesterday, and its unexpected enclosure of $120 will provide for him many needed comforts for the coming winter. He wishes me to say that he deeply feels the kindness of his friends, which have been of material assistance to him.

Sincerely thanking you for your generous and successful effort in my father's behalf, permit me to sign myself,

Respectfully your friend,
ANNA L. COWAN.

The following will be read with interest:

THOMAS G. NEWMAN, *Dear Sir:*—I see you are Treasurer of the Langstroth fund. Please take charge of the inclosed for the fund.

It seems hardly possible that it can be 18 or 20 years, since he Mr. L., was here on a visit, and stopped over night with us. He looked very well then, and was the owner I thought of the finest head of hair I ever saw on a man. It was of a rich chesnut brown, as thick as it could grow, and not a grey hair in it. He must be very much changed since then. I recollect that he was very much interested in my experiments with foul brood, and I accompanied him to the city the next day, where we ransacked the library of the Pennsylvania Hospital in search of information regarding it, but found nothing of any account, excepting a few translations from the German. I think he was on his way to visit Mr. Wagner at York, Pa., when he stopped here.

It was only accidentally that I learned what ailed Mr. L., as he very seldom spoke of himself. I often thought I might have been of service to him had I known sooner. His complaint, if I am right, is generally supposed to be incurable, but this is not so. It can be cured sometimes. I ought to know, it had hold of me once, and from the age of 17 for 40 years it never let go for a whole day at a time. I suffered "many things from many physicians," yet I got entirely well. The treatment for consumption is the only one to be relied upon. Active exercise, or better, some profitable employment that compels muscular exertion, and a life altogether in the open air. This and total cessation from brain work, and not neglecting to "throw physic to the dogs," is what cured me. A bad cold, in midwinter, will still bring me back a reminder, and then iron and quinine in moderate doses has always broken it up in about 2 days.

I wonder if any one outside of Mr. L's family knows his full name; I got as far as L. Lawrence, and there I stopped.

Last winter was long and the season opened late. White clover finished blooming about July 10 and after that we got almost nothing. The crop of honey was less than one-quarter. Late in August the drouth set in, and from that time until now, we have had just about ½ inch of rain. Natural swarms about 4 per cent. C. W. TAYLOR.

☞ In appointing the time for Conventions, it would be well to consider a few points. By holding them early in the month, say from the 1st to the 10th or 15th, it would give time to get a report of the proceedings in the BEE JOURNAL the following month. This is often very desirable; for many who are unable, from some cause or other, to attend, get quite impatient to learn what was done; and if any action is taken that is of interest to or affecting other organizations, Bee or Honey Shows, or anything else of general importance, it should be published as soon as possible. A delay of a month or so, is sometimes quite an inconvenience to many persons, and when it can be avoided, it is certainly worth while to do so. "A word to the wise is sufficient."

☞ By an oversight the sections, all in one piece, which were exhibited by Lewis & Parks, at the National Convention, were not included in the list of exhibits on page 528, of the last JOURNAL. It was quite a large exhibit and the sections were very *nice*.

Dysentery as a Bee Disease.

Mr. C. W. Taylor, Oakford, Pa., desires to have the following questions answered by Moosh Amiel, who has written several articles on this subject:

1. I want to know whether this contributor ever examined a hive, the bees in which had perished from dysentery; or does he know of any one who has done so, without finding the combs in a damp and even mouldy condition?
2. Has he or any one else, ever found the combs of an old fashioned box-hive in this damp and mouldy condition?
3. Has he or any one else, ever known the bees in an old fashioned box-hive, to perish from dysentery?
4. Was the dysentery ever regarded as a serious bee disease, before the introduction of the Langstroth, or movable-frame hive?

☞ At the late meeting of the National Convention we were requested to get photographs of the leading apiarists, to sell to those who wanted them. We can now supply the following at 25 cents each: Dzierzon, the Baron of Berlepsch, Langstroth. In England Mr. Langstroth's photograph will be sold at a half-a-guinea each, to add to the fund for Mr. Langstroth which the English apiarists are now making up. If any wish to give one, two, three or five dollars for it here, the surplus will be credited to the fund raised by the late National Convention. The likeness of Mr. Langstroth which we have, is one furnished by his daughter, who says, "it is the only one ever taken when he was in good health and spirits." We are glad to be able to secure one of such a satisfactory nature.

☞ The date following the name on the wrapper label of this paper indicates the time to which you have paid. We shall hereafter send none unless paid for in advance. We should be glad to accommodate those who desire credit, but our losses are so large in that line now, that we really cannot afford it—having now about $10,000 invested in such outstanding accounts. This rule will be strictly adhered to. That which is a vary small item to each one of a thousand, is a heavy load for one to carry.

New Smokers.

Mr. J. M. Shuck has sent a smoker to our Museum. It uses an upright bellows; the fire-pot is 3 inches in diameter and 7 inches long, giving large space for fire. The bellows has 3 inches of play, and the spring is on the outside. It is similar in appearance to both the Quinby and Bingham smokers, though it differs from them in some points, both internally and externally.

Mr. Scovell has sent his 5th and 6th smoker to our Museum. The latter has the "cold blast," to perfection—though as we remarked in the JOURNAL for last March, we fail to see any advantage in the "cold blast" for smokers. In this, Mr. Scovell carries the air from the bellows directly to the top of the air tube without coming in contact with the fire. The tube is also hinged to the bellows. The former is the same as the latter but not having the cold-blast attachment.

Herr Rentier von Corswant, of Greifswald, Pommerania, has invented and patented a bee smoker which Pastor Knoblauch (the discoverer of the way to seal combs artificially) says deserves the preference over the various implements of this sort which he has tried during a long series of years. The principal advantage claimed for it is just what has been for a long time one of the valuable features of American smokers, namely, the smoke is driven from above down through the material burned, thereby cooling it and rendering it free from sparks and ashes.

☞ We will send sample copies to any who feel disposed to make up clubs for 1880. There are persons keeping bees in every neighborhood who would be benefitted by reading the JOURNAL, and by using a little of the personal influence possessed by almost every one, a club can be gotten up in every neighborhood in America. Farmers have had large crops, high prices, and a good demand for all the products of the farm, therefore can well afford to add the BEE JOURNAL to their list of papers for 1880.

Our Letter Box.

Venice, Pa., Oct. 28, 1879.

My small stock of bees did very poorly this year. I got 1 swarm but no honey, while others around me did finely. What kind of location is best for an apiary—a side hill or a flat ground? Mine is flat ground. Wm. M. Slater.

[From the fact that a hill-side is a protection against high winds, such sloping to the southeast would form a very desirable location.—Ed.]

Rensselaer Falls, N. Y., Oct. 4, 1879.

I wish to call attention to the mammoth Russian sunflower, as a bee plant. I have taken special pains this season to test its virtues as a forage plant for bees. I planted a plat of it the same time I planted my corn and treated it similar to the corn, as to cultivation. It has now been in bloom some two months, and the bees have been very busy since then, securing both honey and pollen. It is interesting to see with what vigor they work in securing pollen from it. It is the only recourse they have now, as a week since we had a frost here that destroyed what else they had access to, but the sunflowers were not harmed, and will probably blossom two weeks yet. I shall plant more next year as they (the seeds) are valuable for horses, cattle, &c., possessing properties similer to oil-cake (flax-seed). Chickens are fond of them and they are superior to corn for egg production. The yield is about the same as corn. I have some heads as large as a five-quart pan. The early part of the season was favorable here for bees; in fact white clover never yielded better but the last three months has tried weak ones.

G. A. Walrath.

Richmond, Texas, Nov. 15, 1879.

The November number of American Bee Journal has been read with much interest, especially the report of the Convention. My bees have done well; they are nearly through with gathering honey now, except from a sugar mill near by, where, unfortunately, I am losing many. My colonies are very strong. From 69 in the spring I got 42 swarms, and 4,000 lbs. of honey in one pound sections, and 6,200 lbs. of extracted. From a hybrid colony in a Langstroth hive (which I use exclusively) with an extra story on top, I got 402 lbs. of honey. It gathered in 3 days 54½ lbs. and had to go from 2 to 3 miles, where basswood and golden rod abounded and yielded well. They are still bringing in pollen from smart weed. We have no frosts yet. The thermometer stands at 70° to 75° in the shade. We have no white clover here. I shall try it next year. Mustard blooms during all the winter, and bees work on it every fine day. In northern and western Texas bees gathered no honey, on account of drouth. There are but few apiaries in our State yet, but much interest is being manifested by many persons all over the State.

J. W. Eckman.

New Amsterdam, Wis., Sept. 27, 1879.

Please let me know the name of the enclosed plant, and its value to the bees. I killed, this month, 1,100 drones from one box hive. They did not swarm, but produced 21 lbs. surplus comb honey.

H. Spengler.

[This is a species of cudweed (*Gnaphalium*). It belongs to the compositæ, the same great order which contains asters and golden rods. The plant here referred to is not of much value for bees.—W. J. Beal.]

Lawson, Mo., Nov. 7, 1879.

While others are sending in their wail a little groan from me may not be amiss. I reduced my bees last spring to 125 colonies by selling some, and from these I have not had a pound of honey and only 1 swarm. I expect to lose one-half or two-fifths of my bees this winter. They have not honey enough to carry them through, and what they have is mostly unsealed. The queen you sent me is not as yellow as some I got from others, but her bees are far ahead of any Italians I ever saw. The honey crop throughout this part of Missouri is a complete failure. My best wishes for you and the Journal. J. L. Smith.

Woodbury, Conn., Nov. 14, 1879.

I see by the American Bee Journal that H. L. Jeffrey, Waterbury, Conn., is the Connecticut Vice President, and if that is intended for your humble servant, please oblige by making note of error, as my address is Woodbury, Litchfield Co. Conn., and I will do my best to fill the bill in my district. I had not noticed it until I was spoken to about it. H. L. Jeffrey.

[This was a clerical error made in copying the list of names, and in the hurry we did not discover it. You are the man.—Ed.]

Parkman, Maine, Sept. 13, 1879.

I see in the April number of Journal that I am appointed Vice President of the National Convention, for the State of Maine. I think myself highly honored with the appointment. I think there are others better able to fill the office than I am, yet, I will do all in my power to forward the interest of bee-culture. It would be useless to attempt to form a Society in this State at present, as we have but very few scientific bee-keepers, yet I think we shall have one before many years; as the people have just begun to wake up to the fact that there is something better for bees than box hives and brimstone. I have made arrangements with an agricultural fair to exhibit apiarian wares, bees and honey. I think we shall have a good display for the first one. The best way, I think, to get to the top of the ladder is to start from the bottom. I commenced the season with 4 strong and 6 weak colonies, increased to 26 and took 1,000 lbs. of surplus honey, part box and part extracted. My colonies are now very strong with bees and honey. I have sold 800 lbs. of my honey at 20c. per pound for extracted and 25c. for comb. I have been for about 2 weeks transferring bees from all kinds of hives into the Gallup hive, the one I use. I shall transfer until October. I think I have a nice way of defeating robbers where I have more than one to transfer; I shut up the hives all but one, in the morning; while transferring that one they will get so full of honey that they will not meddle with others until they get cleaned up and unloaded, which will take them all day. I take one after another until I get through. I have never been disturbed by robbers since adopting this plan. This season has been very cool and wet. We have had no drouth at all; as we usually do. Bees are at work on golden rod and aster, we have abundance of them here. I think the American Bee Journal is the best investment that a bee-keeper can make. W. H. Green.

Cook's Mills, Ill., Oct. 8, 1879.

I send you specimen of a honey plant. Please give me the name and properties.

A. J. Monroe.

[The specimen sent is an aster. It is a good honey plant. See "Cook's Manual," page 243.—Ed.]

Topeka, Kansas, Oct. 2, 1879.

I find the enclosed plant blooming on the prairies about Topeka the first of October, and the bees working on it. What is it?

Frank Rix.

[This, like the above, belongs to the aster family of plants.—Ed.]

Peru, Ill., Oct. 25, 1879.

I have met with nearly all the principal bee-keepers within 20 miles, representing nearly 2,000 colonies of bees, (principally black) and the universal cry is no surplus honey. Many young swarms in this locality have not gathered sufficient honey to winter on; in fact many have deserted their hives during the past two months. Last year my colonies averaged over 100 lbs. of honey each. It was mostly extracted, and I sold it from 12 to 14 cents per pound. Last winter the loss of bees in this locality was great; I lost 12 out of 69. I have in winter quarters 90 very good colonies.

H. S. Hackman.

Knowlersville, N. Y., Nov. 10, 1879.

Last winter I put 90 colonies in my bee-house; left 60 on summer stands; lost 28 colonies, most of which were of those wintered out-of-doors. Sold 1 colony, leaving 121 (20 of which were very weak, the rest in good condition) to commence the season with. We had considerable of unfavorable weather during the yield of honey, but the result, on the whole, is quite satisfactory. Swarming commenced May 22, and continued until July 18, with but little interruption. As high as 16 swarms issued in one day. I had about 150 swarms, part of which were returned, leaving the total number of colonies now at 200. I have taken 9,650 lbs. of comb and 1,385 lbs. of extracted honey, total amount 11,035 lbs.; 7,000 lbs. of this was gathered from buckwheat, the rest from clover, basswood, &c. W. D. Wright.

Dupont, Ind., Sept. 29, 1879.

I send parts of 2 plants from which bees are largely gathering honey of a nice golden color and good flavor.

No. 1 grows along with golden rod (*solidago*), fig. 99, page 242 of "Cook's Manual," and is much the same in style of growth except the flower, but is much preferred by the bees.

No. 2 is known here as wire-weed, and is a great nuisance in marshy meadows. It will bloom and secrete honey after frost sufficient to kill almost everything else.

S. E. O'Neel.

[No. 1 is double-bristled aster (*Diplopappus umbellatus*). This might be mistaken for a true aster.

No. 2 is *Aster tradescanti*, variety *fragilis*, a very common species.—W. J. Beal.]

Los Gatos, Cal., Nov. 12, 1879.

I commenced in the spring with 45 colonies; 39 Italians and hybrids, and 15 blacks. I increased to 61, all from Italians and hybrids; and almost all the honey I obtained, was from them. It was a rather poor season, although I did very well for the season —3,905 lbs. of extracted honey. I think I should have had a full thousand pounds more, had it not been for drone-rearing, but being a cold spring the bees took possession of the upper part of hives which contained a large amount of drone comb and we had to slice an immense quantity of drones. I think I shall try floor oil cloth for covering frames, and so keep the heat, queen and brood below, and have the upper combs worker, thus preventing drone rearing. Have any of your readers tried floor oil-cloth under the covers and for division boards? I get second-hand cloth and find nothing as good, the bees cannot gnaw through it.

I have a very convenient atmospheric feeder made of two oyster cans one, ¾ of an inch larger than the other; I make them myself; I can make one in about 5 minutes; the cans cost nothing but picking up at the hotels; they work perfectly inside or out. The feeders are made by melting off one end of each; filling the small one; turn it bottom up, in the large one. After cutting a hole in the large one, ½x1½ and ½ inch from the bottom, for the bees to enter. Where used outside, make it so that the bees can enter the hole from the entrance, and none get in from outside, and put a cover on the outside can. The cover is made by cutting off the can same size cutting the rim which is ⅓ inch deep about every inch; pressing out the rim so as to open the cuts a little, and it will slip on and answer just as well as if made by a tinner.

Perhaps this may help some to keep combs from melting down. My Langstroth hives are made with ventilators in the center of the bottom 3x8, and covers nailed at each end to pieces 1x3, and when the hot weather comes I raise up the covers by nailing a lath on the under edge of the end pieces, at each end, and putting it on top of hive, putting on burlap sacks, so that the cover is 3 inches above the sack. I have never had but 3 combs melted. I acknowledge that I am greatly indebted to our bee-keeping friends for many valuable hints and although other bee papers are good, still the "old reliable" keeps the lead and still improves.

S. S. Butler, M. D.

DeVall's Bluff, Ark., Sept. 15, 1879.

Inclosed find a few sprigs indigenous to this region. This is one of the very best honey plants that we have, in fact it has no equal this season. It has been in blossom for the last 2 months or more, and is covered with bees all the time. The berries, when ripe, are dark red or brown. Please give its name in the Journal, for the plant is valuable.

S. R. Mason.

[The above is Indian currant or coral berry (*Symphoricarpus vulgaris*). It has always been very highly extolled by bee-keepers.—W. J. Beal.]

Sussex, Wis., Nov. 3, 1879.

I have 63 colonies of bees in good condition for winter from 30 in the spring, and got 1,200 lbs. of honey from the same. I sold 3 colonies in the summer and 1 good colony this fall. I am not discouraged yet.

T. E. Turner.

London, England, Oct. 11, 1879.

Do you know of any successful means of closing the space at the ends of combs without propolization? I have been experimenting this year and so far as my experience goes I find that by closing the ends of the frames with india rubber, so as to render the joint perfectly air-tight, that the bees do not propolize as in the ordinary course, if an air space is omitted. As regards my experience with this method—I commenced the experiment at the end of June—it has therefore had nearly 4 months' trial.

C. I. Stevens.

Ada, O., Nov 3, 1879.

To the readers of the American Bee Journal I would say that another honey harvest is past and we have our bees about all snugly prepared on their summer stands for Jack Frost and his zero sword, with which last winter he slew so many of our little heroes; though let it be remembered that poor rations makes more corpses among our pets than king zero. I sold quite a number of colonies leaving about 40; which in spite of the drouth in June and the wet weather following, I increased by division to something over 100 colonies, and got over 1,500 lbs. of comb and extracted honey. My imported Italian and home-bred mothers produced the bees that filled my section boxes with honey that sold this fall for 20c. per pound. I sold extracted honey at 15c.

My Italian bees wintered better than the blacks, and come out stronger in numbers in the spring; and of course spring dwindling did not occur. I find no difference between the imported mothers or home-bred ones, for wintering, honey gathering or prolificness, but I do claim that we have home-bred mothers that produce lighter and more handsome workers than the imported ones, that I have, or have seen anywhere. I have spent both time and money, importing bees direct from Italy and buying from American breeders, in order to get a lighter colored strain of bees; and at the same time I have done my best at home, in rearing queens of the ones I had bought. Some of the young queens I reared was worth $5.00 to me, a few worth $3.00 and quite a number $1.00 (less 99c.). I did not find the colored bees I wanted, till I received some from D. A. Pike, the Albino bee man. I care not what he calls his bees, where he got them, or how he came by them, they are the colored bees that suits me.

J. B. Murray.

Enfield, Ill., Aug. 27, 1879.

I send you the top and bloom of a honey plant which grows in our wet land to the heighth of 3 or 4 feet, branching within 10 inches from the ground. The flowers are sweet-scented, and produce very light-colored and pleasant-tasting honey in abundance. Please give us the name of it in the Journal. The plant is spreading to the upland, and is highly prized. I must have Italian bees, if they will gather nectar from red clover. I have about 20 colonies of black bees, and will remove to my farm in a few months where red clover is abundant, with none but bumble-bees working on it, which profit me nothing in honey; so I must try others. If they will, I shall Italianize as fast as possible.

G. A. Willis.

[This is an aster, and produces excellent honey.—Ed.]

Davenport, Iowa, Nov. 18, 1879.

I have 220 colonies of bees in fine condition for the winter. I have sold 7,500 lbs. of comb honey. I had but 15 swarms this season from my 210 colonies. The honey yield has been light all through Iowa. I do appreaciate the American Bee Journal very much; it is a great help.

E. R Wright.

Wahalak, Miss., Oct. 15, 1879.

I am a novice in apiculture (I mean modern apiculture). Although I have had bees for more than 30 years in the old style box or gum hive, I have never produced much honey and no profit. Last February I purchased a right from N. C. Mitchell, of Indianapolis, Ind. I purchased about 22 colonies in gums and boxes, which were in bad condition, and by the middle of March they died out and were reduced to 17 gums. I made 30 or 40 Mitchell hives preparatory to swarming, expecting at least 50 or 60 swarms. As a usual thing we have from 3 to 5 swarms from each hive, but as the spring was cold and wet, we had an extraordinary poor honey season, and consequently had but few swarms, only 8 or 10 in all. In May, after finding they were doing nothing in the way of swarming or getting honey, I concluded to transfer from the old hives. In doing this I lost several colonies by the robbers. I found the bees in my new hives and those in the old gums were making but little honey, and that of an inferior quality, very dark and of a peculiar taste. From the 15th of June to the 15th of August, they scarcely gathered enough to support them; after that they commenced business, gathering honey rapidly, and to my surprise, on the

26th of August a large swarm came out, followed by seven more by Sept. 5th ; and still more to my suprise, a new generation of drones came out. The honey gathered this fall is of a fine quality, and the bees are doing well at this time. This honey has been mostly gathered from a weed that is common in this portion of Mississippi. I know of no name for this weed. Enclosed I send you some blossoms and a leaf ; can you name it ? It has very small seed. The roots live all winter in this climate. I have had many reverses in this new enterprise, but contemplate persevering in the business. H. W.

[This is a species of *Eupatorium*. It is probably *E. hyssopifolium*. There are some 20 species, all good for bees so far as I know.—W. J. Beal.]

Addison, N. Y., Oct. 11, 1879.

I lost all of my bees but 1 colony. I purchased 8 more ; they increased to 20 ; I got but little box honey ; still I think they will winter all right. It has been dry here, this summer ; there were no flowers to speak of, only now and then a little shower, not more than a good heavy dew ; and then the wind would turn around in the north or west and be cold and chilly, and sometimes would shut the bees in for one or two days. It is now cold and frosty and of course they have gone in for winter. Honey is scarce in this section ; increase has been very small. Some of the bee-keepers have had no increase nor any box honey ; in a few isolated places they have done well. I do not know the reason why there is so much difference, unlest it is on account of the red Raspberry, that is so much more natural in some places than in others. S. B. Borden.

Kane, Ill., Sept. 30, 1879.

On July 9th, I received an Italian queen and 2 worker bees in a cage from a queen-rearer ; the queen was in a dying condition and one worker was dead, I fed the live bee all the honey it would take and turned it loose at dark, and returned the dead queen to the sender. The next morning the same bee came buzzing around the door screen. My daughter remarked several times that she would go and feed that poor little bee, but it left ; where it went, I know not. The hive No. 8 that I spoke of in the Bee Journal for September, page 420, stands within 25 feet of the door where the bee was last seen. The young queen in that hive had been out 10 days and the colony was then very weak and to my great surprise the brood in that hive hatched out on the last of August was all 2 banded Italians (bright) and have increased till they are now strong and in good working order. There are no Italians nearer me than 8 miles. I have one queen hatched out since that ; her brood is black. No. 8 contains the only mixed bees in my apiary of 16 colonies. I received a pure Italian queen of Mr. Alley on the 7th of August ; her progeny all have 3 bright golden bands, and the queen's wings are clipped ; the hives are 25 feet apart. She has no drones yet. I would like to know how this all happened. Please tell me. My bees are yet in fine condition. I got no honey from my bees this season. I gave some full combs to the poor colonies and I procured a lot of Shuck's bee feeders and I am feeding all the late colonies. The robbers from the timber are yet troublesome to me. The honey crop is a total failure here and the bees generally are in poor condition. The buckwheat crop is a failure here ; the weather is yet dry and cool.

Radford M. Osborn.

[Your young queen probably met an Italian drone from the woods.—Ed.]

Lansing, Mich., Oct. 15, 1879.

I notice in the Journal of this month a letter from my father in which he states that I am a graduate of the Agricultural College of this State, under Prof. Cook. This is a mistake on the part of my father, and the result of a wrong impression. I was a student there for two years but owing to the illness of my mother was unable to remain and take my degree. While there I did not take bee-culture as a study but watched with interest the successful management of the apiary by Prof. Cook and his able assistant, Mr. Fisk Bangs, now of South Haven. On returning to the college by the suggestion of Prof. Cook I adopted bee-keeping as an occupation, and allow me to say that to his kind advice and the valuable teachings of his Manual, I this day owe my success as an apiarist, and would advise every one to obtain Prof. Cook's Manual, for no library is complete without it.

George L. Perry.

Rienbeck, Iowa, Nov. 10, 1879.

I have read the Journal for November and am very much pleased with it. Bee interests are much improved in the last few years. Bees have done better in this section than some other localities. Do bees gather honey from the white willow ? That is the first thing to come out in the spring and it is just swarming with bees at work on the tags or blossoms. There are miles of willow in this country and plenty of white clover. There are no Italian bees in this section. We must improve our stock.

D. S. Burbank.

[Bees do gather honey from the white willow.—Ed.]

Bloomingdale, Mich., Nov. 18, 1879.

Last year I wintered my bees without loss ; they were packed in 2 long boxes ; one had 13 in, the other 10 ; placed 28 inches from center to center ; I packed all round and between them with chaff, but none in front. I put cloth on the top of the frames, and then put the chaff on, well packed ; the boxes are 2 inches from the ground. I banked up with dirt and left them so all the time. I leave the chaff around the body of hive during the summer, the roof being on, of course. I reduced them by sale down to 19 in the spring ; I have sold about $100. worth of honey in Chicago ; have eaten 200 or 300 pounds of honey in the family. I increased the colonies to 33, mostly by swarming. I have now 27 all packed and in fair order. It has been a poor year for honey.

John Crowfoot.

Beaver, Oct. 6, 1879.

Enclosed find 2 specimens of plants which grow profusely in our vicinity, and from which bees obtain considerable honey from about the middle of September until the bloom is destroyed by the frost. Am I correct in supposing them to be asters? The larger variety grows from 3 to 4 feet high, and is found principally along the shady edges of the woods on runs and creeks, while the smaller variety, from 8 to 12 inches high, is always found on the upland. From the number of bees frequenting them, they must contain much honey.

Wm. S. Barclay.

[Yes; these are fragments of two species of asters.—W. J. Beal.]

Augusta, Ga.

I send you samples of a few of our Southern forage plants—12 different varieties including two varieties of solidago. These plants are referred to in my paper on "Bee Forage in the South" read before the National Association at Chicago, last month. Please place these specimens in your "Museum of bee-keepers' curiosities." The North American Bee-Keepers' Society, though still in its swaddling clothes, has the power to wield an immense amount of good to our Country. While its meetings sum up the experience of the wisest and best bee-keepers, and while it aims to assist the honey-producers to protect their products from adulteration and to encourage their sale, it should never lose sight of the question of the still yet undeveloped mysteries in the development of the honey-bee, and of the many occult pages in its natural history. The American Society for the advancement of National Science; the American Pomological Society; the American Medical, Association, &c., all have their standing committees for investigation and observation. Would it not be advisable to have something of the sort in the Bee-Keepers' Society? May the North American Bee-Keepers' Society virtually know no North, no South, no East, no West, but work for a common good and a common cause, and may its sessions always be harmonious and instructive, so that its members can return to their homes socially and intellectually benefitted. J. P. H. Brown.

Peoria, Ill., Oct., 1879.

In driving along the Illinois river bottom, about Oct. 1st, we noticed large quantities of aster simplex in bloom; is it a good honey plant? During this warm weather, bees are bringing in honey quite freely from some source. Golden rod, asters, and a species of smartweed (*polygonum*), are all the source we know of. In ordinary seasons, golden rod is through blooming by this time. We have noticed white clover blooming beautifully in some places, but have had no opportunity of ascertaining whether it is yielding honey. Mrs. L. Harrison.

[I had always supposed that all of our numerous asters were good honey producers. I know no reason to suppose that aster simplex is any exception.—W. J. Beal.]

LaCrosse, Wis., Sept. 16, 1879.

I send you a part of a plant that grows in great abundance on the sandy prairies in this locality. The blooming season is during the month of August. The poorer the soil, the better the plant grows and the more honey the bees can gather from it, provided it is not too dry, which is hardly ever the case in this locality. The honey is very light in color, not as good as the white clover and linden honey, and it also has a peculiar taste. The plant is called by many mint, but I believe it to be white sage. Please reply through the Journal what the plant is called. I shall gather some of the seed and send to you. L. H. Pammel.

[The above is wild bergamot (*Monarda fistulosa*), a well-known honey plant.—W. J. Beal.]

Cambridge, Ill., Oct. 31, 1879.

It may not be too late yet to give my experience with my bees last winter. I am satisfied I have found the true principle of wintering, though it is not new by any means. I must tell the readers of the best bee paper, how cheaply and well I brought them through. In the east side of a small hill I dug out a hole 9x12 feet and 5 feet deep, letting the bottom slant with the hill; posts were set on the sides and ends, good heavy ones to hold up the roof, a double door was put in the east end; the top was made roof-shaped and covered with about a foot of straw, then 6 inches of dirt, then a good coat of straw on top, with some long grass to keep it from leaking. A 2 inch pipe was put in the west end for ventilation, and a small hole was kept open in the east end, all the winter. A slanting doorway was cut out and boards laid on top with straw kept on top to keep out the heat of the morning sun. Now for the results, I put 48 colonies in the cave the 4th of December and took them out on the 8th of March, having looked at them but once during the winter. They all came through in fine condition except 4, and these were sitting on the damp ground, as my cave proved too small for the number of colonies. The temperature generally stood at 40° to 46° fell but once to 36°. They kept very quiet, and in their first-flight never soiled the hives a particle. The cave was boarded on the inside. The floor should be made drier than mine was, with sand or something of the kind J. V. Caldwell.

Wellesley, Mass., Sept. 20, 1879.

What is the cause of a peculiar odor emitted from the hives in late summer and early fall? Last year I noticed nothing of it, but this season it has been very perceptible. I do not suppose it to be anything uncommon to bees, or due to any wrong in their condition, as mine have always wintered well, coming through in the spring strong and vigorous. Never noticed it before the last of August, or after frosty nights had set in. I winter them under an open shed, with bags of rowen stuffed in at the top and sides of the hives, allowing them flights on sunny days. I. Flagg.

[The odor comes from some plant upon which the bees work.—Ed.]

Correspondence.

For the American Bee Journal.

Dysentery and Wintering.

G. M. DOOLITTLE.

Is there such a disease among bees as the dysentery? I answer, No. I am well aware that nearly every writer on the subject for the past 10 years has told us that there was such a disease, and has attributed the cause to cider, honey dew, extreme cold, old bees, &c. But let us look at the thing rationally, and see if all these writers have not been mistaken. Do we see the bees soiling their combs and hives at any other time except after a long-continued confinement? If we had July weather steady for one year, would the bees die of the so-called dysentery as they did last winter and spring? Of course not. Supposing a person, from some cause, was obliged to retain all he ate for ten days or two weeks, and after nature gave out, would any doctor in the land say he had the dysentery? No. So, then, we see as nature has made it a necessity for bees to fly to void their fæces, that it is their being obliged to stay in their hives longer than nature allows that causes this so-called dysentery, and nothing else. If this were not so, why do we read many times, by various writers, "my bees were suffering badly with the dysentery, when a fine warm day came and they had a good fly, and now they are all right." Can the reader understand how a bee just ready to die with such a dangerous disease, can be cured of such an epidemic by a few moments' flying, only on the grounds above given? That nature has made the bee capable of containing their fæces longer during confinement in cold weather than in warm, is a self-evident fact, for bees will soil their combs and hives in one-fourth the time with a temperature of 70° that they will with one of from 10° to 40°. It is just this principle, that bees can control their excrement for a long period of time during cold weather, that enables us to keep them at all here at the north. Believing the above to be correct, our next point to be considered will be

WINTERING BEES.

Having admitted that long confinement was the cause of the great mortality among bees in the past, let us see what can be done in the future to help the bees control their fæces during such winters as the winter of 1878–'9 proved to be. Now, just see how all agree on this wintering question. Having once taken this view of the matter all is harmony, and the theory of each writer on the subject of wintering proves correct. Let us notice some of these, for we have nothing new.

First. Cellar wintering has proven about the best plan. Why? Because from the even temperature of the cellar the bees need but little food to keep up the necessary warmth they require during this period of partial inactivity which winter compels them to pass through. As but little food is required, the body of the bee easily contains said food after digestion, and thus all goes well.

Second. Chaff-packed hives on summer stands are advocated by nearly as many as cellar wintering. Why? Because as the bees are surrounded by porous walls, which take off the moisture passing from the bees' bodies, also retaining the warmth generated by themselves, they are kept at a more uniform temperature than they would be without the chaff-packing, thereby lessening the consumption of honey, and enabling them better to throw off a part of the moisture contained in their food, and to contain the rest till the weather shall be sufficiently warm for them to fly. This mode has a seeming advantage over cellar wintering, in that it allows the bees to fly if an opportunity permits during winter, but is offset by a more uniform temperature, and a consequent decrease in the consumption of stores in the cellar.

As these two plans are about the only feasible ones, let us next look after the other causes which help these plans to be a success or a failure. Those looking toward a failure are these: First. Poor honey, such as honey-dew, cider, soured and unsealed stores, &c. Why? Because the bees have to take into their bodies an excess of that which is not real food to them to sustain their existence, thereby distending their bodies, and unless a chance to fly presents itself often, they must die in a loathsome condition. Second. All causes which disturb them in their winter repose. Why? Because as soon as they are disturbed they take into their bodies more food than is required for their existence, thus placing them (with the best of food) in the same condition they would be with poor honey. So we see how important it is that they should have perfect quiet; that no mice or rats are allowed in or on the hives, or that the temperature of the cellar does not get so high as to make them uneasy. Third. But few bees, or mostly old ones. Why?

Because if but few bees, they cannot keep up the desired warmth without consuming an undue quantity of food, thus thwarting our object; and if old bees, they will die of old age before the young ones in sufficient numbers hatch the next spring.

Those looking toward a success are these: That those on summer stands have a fly once in 6 or 8 weeks; that each hive contains an abundance of bees and good sealed honey, or sugar syrup made of "A" coffee sugar, a good queen, a hive so that the bees can cluster compactly, &c. Why? Because all these things have a tendency toward accomplishing our object of keeping the bees in such a state of quietude that they can contain their fæces for a great length of time, for upon this hangs all the secret of successful wintering. "But," says one, "our bees died more rapidly last spring, from the middle of March till fruit bloom, with purifying flights from once in two weeks to every day, and that when fed on good capped honey, than they did at any time during the winter." Admitted; so did ours. The reason was this: Their vitality was so impaired by the strain brought to bear on them consequent upon holding their excrement for nearly 5 months, that they spring dwindled, or, in other words, died of premature old age. Don't you think that the person spoken of at the beginning of this article would have been sick and his constitution somewhat worn, if he had been compelled to contain all he ate for two-thirds of his natural life, as the bees had to last winter? Another says: "Can you tell me why bees now die in spring of old age more than they did years ago?" I can tell you what I think the reason is; it is this: Our timber land has been so cleared off to meet the demand for nice houses and costly furniture, that the wind sweeps the country almost unobstructed, making the State of New York nearly as bleak as the western prairies. This causes two things: 1st. A greater amount of food to be consumed to keep the desired temperature; 2d. We have many days when it is warm enough for bees to fly, that the high winds prevent, while, if in a sheltered nook, with a wind-break 100 feet high, they could fly nicely, and we go to bed at night feeling that the bees are in fine condition to stand another cold pull, instead of knowing that the bees must perish if a warm day does not soon come without wind. We had two days last winter, prior to the 10th of March, that bees could have flown nicely had it not been for the wind. To illustrate, when friend Betsinger lived at Marcellus Falls, he was in a narrow valley, with hills rising each side, upwards of 100 feet. On one side the N. Y. C. R. R. threw up an embankment nearly as high as the hills, and on the other there was a point of rocks that jutted out half-way into the valley. In this place his bees could fly when mine were kept in by high winds. In 1872, when we had our former disastrous winter, friend Betsinger lost scarcely a swarm, nor did he lose any to speak of while there, but since he has moved to a higher altitude, where the wind rakes, as it does in most places, the country over, his losses are equal to those sustained by any of us.

Kind reader, I have now fulfilled my promise, made a year ago, to give you an article in each number of the AMERICAN BEE JOURNAL for 1879. I have tried to give you articles of practical value, and those that would be of use to you. How I have succeeded is best known to yourselves. I now say good-bye for 1879, and promise, if Providence spares my life and health, to again write 12 articles for the *good old* AMERICAN BEE JOURNAL for 1880.

Borodino, N. Y., Nov., 1879.

For the American Bee Journal.

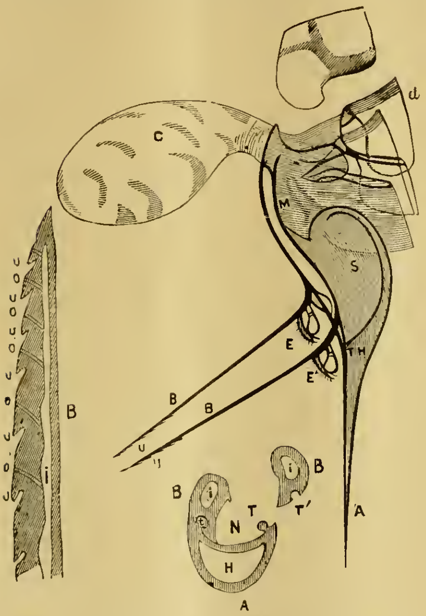
The Sting of the Worker Bee.

PROF. A. J. COOK.

The worker bees possess an organ of defense, which they are quick to use, if occasion demands. This organ is straight, not curved as is the sting of the queen. The poison, which is emitted in stinging and which causes the severe pain, is an acid fluid, which is secreted by a double gland, and stored in a muscular sack (fig. *c*), which is about the size of a flax-seed. This sack is connected by a tube (fig. *m*) with the reservoir of the sting. The sting is a triple organ consisting of three sharp hollow spears, which are very smooth and of exquisite polish. If we magnify the most beautifully wrought steel instrument, it looks rough and unfinished; while the parts of the sting, however highly magnified, are smooth and perfect. The true relation of the three parts of the sting was accurately described by Mr. J. R. Bledsoe, in the AMERICAN BEE JOURNAL, vol. 6, p. 29. The action in stinging and the method of extruding the poison is well described in a beautifully illustrated article by Mr. J. D. Hyatt, in Vol. I, No. 1, of "American Quarterly Microscopical Journal." The larger of the three awls (fig. *a*), usually, though incorrectly, styled the sheath, has a large cylindrical reservoir at its base (fig. *s*) which is entirely shut off from the hollow (fig. *h*) in the more slender part of the awl, which latter serves no purpose, except to give strength and lightness.

The reservoir connects at its base with the poison sack, and below by a slit with the opening (fig. *n*) made by the approximation of the three awls.

The other two awls (fig. *b*, *b*, *b*) which we will call lancets, are also hollow (fig. *i*, *i*). They are barbed (fig. *u*, *u*, *u*) much like a fish-hook, except that there are eight or ten barbs instead of one. Five of the barbs are large and strong. These barbs catch hold and cause the extraction of the sting when the organ is used. Near the base of each lancet is a beautiful valvular organ (fig. *e*, *e*). The hollow inside the lancets (fig. *i*, *i*), unlike that of the awl, is useful. It opens anteriorly in front of the first six barbs (fig. *o*, *o*), as shown by Mr. Hyatt, and posteriorly just back of the valves into the central tube (fig. *n*), and through it into the reservoir (fig. *s*). The poison then can pass either through the hollow lancets (fig. *i*, *i*) or through the central tube (fig. *n*), between the three spears.



Sting with Lancets drawn one side, cross-section of Sting and a Lancet, much magnified.

c—Poison sack.
m—Tube from sack to reservoir.
s—Reservoir.
a—Awl.
b, *b*—Lancets.
e, *e*—Valves.
o,*o*—Openings from hollow in lancet.
u, *u*—Barbs.
h—Hollow in awl.
i, *i*—Hollows in lancets.
t, *t*—Ridges in awl.
t'—Groove in lancet.

The lancets are held to the central piece by projections (fig. *t*, *t*) from the latter, which fit into corresponding grooves (fig. *t'*) of the lancets. In the figure the lancets are moved one side to show the barbs and the valves. Normally they are held close together, and thus form the tube (fig. *n*).

The parts of the sting are moved by muscles connecting the bases of the parts and extending from the parts to the large chitinous supports (fig. *d*). The fact that muscles connect the various parts, and the muscular character of the sack, explain how a sting may act, even after the bee is apparently lifeless, or what is even more wonderful, after it has been extracted from the bee. The barbs hold one lancet as a fulcrum for the other, and so long as the muscles are excitable, so long is a thrust possible. Thus I have known a bee dead for hours to sting. A wasp, dead more than a day, with the abdomen cut off, made a painful thrust, and stings extracted for several minutes could still bring tears by their entering the flesh.

In stinging, the awl first pierces, then the lancets follow. As the lancets push in, the valves close the central tube, when the poison is driven through the lancets themselves and comes out by the openings near the barbs (fig. *o*, *o*). The drop of poison which we see on the sting when the bee is slightly irritated, as by jarring the hive on a cold day, is pushed through the central opening by the muscular contraction of the sack attendant upon the elevation of the abdomen, and extrusion of the sting.

Darwin suggests that bees and wasps may have been developed from saw-flies, and that the barbs on the sting are the old-time saws, transformed into barbs.

For the American Bee Journal.

A Good Bee Country.

W. P. Johnson, of Baldwin, Pa., inquires through the JOURNAL for a good location to establish an apiary; "a location where there is no doubt of the existence of large surplus honey crop." Plenty of bee pasture at all seasons of the year fit for bees to work, I presume he means. A great many persons would like to find such a location, no doubt. California, with its nervous climate, is left out of the question. I have studied this subject considerably, making use of every source of information come-at-able, and have reached the conclusion that among the Blue-ridge Mountains, ranging from Virginia to the southern boundary of North Carolina, is one of the most desirable bee countries in the United States, California not excepted. It is either a surfeit or a famine with California. The climate of that country may with propriety be termed erratic. One year the abundance of honey cannot be handled. The next year, there is not enough to keep the bees from starving.

The best evidence that the Blue-ridge country is an unfailing honey country, is found in the fact that the primitive farmers of that region generally keep bees; keep them in sections of hollow logs, rough boxes, and in the crudest and rudest manner, and yet many of them have from 50 to 100 colonies.

The latitude of North Carolina insures short winters. In the valleys and on the plateaus, vegetation is seldom, if ever, parched by drouth, the numerous mountain peaks condensing the vapor wafted from the Atlantic, and showers which are distributed through the entire spring and summer, keep plants always green and blooming. The forests are full of the best honey yielding trees and shrubs; white clover springs up on every foot of ground that is not usurped by trees or immediately under cultivation; buckwheat is one of the staple crops of the farms; and in some sections fruit blossoms afford rich forage for bees in the spring. Travelers say that it is admirably adapted to bees.

In describing the country known as high-lands, situated in Macon county, Southwestern North Carolina, Messrs. Kelsey & Hutchinson say, in their pamphlet: "The honey produced is of the very best quality, excellent in color, and even where kept in rough boxes or hollow tree-trunks, and with little or no attention, except to rob the hive two or three times a year, bees succeed admirably. Bee-keepers will recognize in the list of trees and shrubs many which furnish honey, and white clover is so abundant, wherever the timber is cleared away, that bees may always be kept with profit."

Prof. Richard Owen, M. D., State Geologist of Indiana, in his account of a visit to this mountain region of North Carolina, says: "From some cause or other, bees seem to thrive remarkably well, and to be great favorites in this part of North Carolina. We saw at one farm about 75 colonies, and heard of one farmer who owned over 100 bee-hives, 'bee-gums,' as the hive is usually part of a hollow-tree."

The topography, the metoric condition of climate—the elevation lifting it above intense summer heats—the latitude of 35° insuring short, mild winters, and the flora of the region of the Blue-ridge, all seem to combine to make the best bee country, taking one year with another, in the United States. E.

For the American Bee Journal.

The National Apiary.

W. WILLIAMSON.

I have read with pleasure, and I hope profit, the proceedings of the National Convention, last month. I find but one unkind remark in the whole proceedings and that seems to be directed particularly to me, by Mr. Heddon; who remarked after the reading of my short essay: "I am decidedly in favor of the project and would at once nominate myself for superintendent, with a salary of $2.500 per year; would be willing to guarantee there would be no honey raised; it should be located at Petoskey."

When I wrote my essay I knew it would not be popular, as it evidently appeared to be in opposition to *private enterprise*. Mr. Heddon seems to have thought that it was intended as a *private enterprise* of mine, or that I expected to derive some pecuniary benefit from it, if put into operation; this thought was, and is as far from me, as the stars of heaven from earth. Because I happened to suggest a location, he seems to think I had a view of doing all he suggests he would do himself.

In answer thereto, I will say, that, if any one were to fill the bill as itemized in my essay, and add a thousand acres of the land spoken of, with a fine residence worth as much as the whole, and compel me to live in the backwoods of Kentucky or Tennessee, or any other backwoods, I would not accept it as a gift. My professional business keeps me fully employed, and more profitably than any "bee business" has ever proven to me, or ever will, perhaps; and no such enterprise would induce me to quit it.

Lexington, Ky., Nov. 11, 1879.

[We do not think Mr. Heddon had the slightest idea of referring to Mr. Williamson. It was one of his playful expressions, alluding to his little Paradise—Petoskey.—Ed.]

ERRATA.—In the surplus honey reports given at the National Convention, mine should read 17,000 lbs. instead of 7,000; it was about half and half comb and extracted; 7,000 lbs. would not pay expenses, say nothing about interest on capital, or pay for my own time.

On page 516, third line from bottom of last column is an error. I said that the report of English prices were 12½ cents for comb and 7 to 8 cents for extracted. JAMES HEDDON.

For the American Bee Journal.

My Plan for Wintering Bees.

DR. J. W. GREENE.

I do not know that I have anything new on the subject; still, my mite of experience may add something to the sum total—that we all need. During the years 1877 and 1878, I gave my assistant a per cent. of the honey and increase of my apiary for his services. Late last fall after "equalizing" the colonies, we divided by lot, so that the division was as impartial as it could possible be. When winter set in I packed my share in prairie hay against the east side of a tight, high, board fence, and he "let his alone" on their summer stands. Nearly all of his became more or less diseased and but a single one of mine. He lost 11 out of 25 during the winter and spring, while I lost but 1 out of 37.

Bear in mind, now, these bees were all the same kind, in the same kind of hives, in the same condition, and in the same apiary. The hives were all of the modified Langstroth pattern, with frames only 8 inches deep. The manner of preparation and packing was simple. I first made winter passages by running a bayonet-shaped hickory stick through the hive, comb, bees and all from one side to the other, quickly and easily done. Then I took a 2x4 scantling and set it on edge against the fence; then took another one and laid it down flatwise 18 inches in front of the first one. Then tramped prairie hay down tightly between them; then set my hives close together on this hay and these scantling; then packed hay between the hives, and between the fence and the hives as tightly as I could with a blunt end of a heavy hand-spike; then packed a second tier on the first, placing the bottom-board of the second tier directly on the thin honey board of the first tier. I packed them in this way three tiers deep, as tightly in hay as it could be done, leaving the full front of every hive exposed. The bees were allowed no ventilation at all, excepting the main lower front entrance, and in some cases only one third of that. They had no mats nor quilts about them, and not a bit of upward ventilation. I have tried every plan of wintering that I have heard of, and this has at least in one instance, beat all the rest, decidedly.

I forgot to state that after packing the bees I covered the whole so as to keep hay and hives dry. I shall winter again on the same plan this year. I also successfully wintered a number of weak nucleus colonies, of three and four frames each, in one room of my dental office.

This has been the poorest season in the last twelve, in this part of the country, for bees; and yet we have abundant crops of fruit, grain and vegetables of all kinds. It is a mystery.

Chillicothe, Mo., Oct. 4, 1879.

For the American Bee Journal.

Bee Items from Mississippi.

OSCAR F. BLEDSOE.

I have been keeping a few colonies of bees for several years past, so as by practical experience in connection with reading, to learn bee-culture and also to demonstrate to myself whether or not in this locality bee-culture can be made pecuniarily profitable. I am encouraged to believe from the facts in my own case, that the latter point can be demonstrated in the affirmative. I commenced the present season with 1 colony of Italians (obtained last year as a nucleus) and 11 colonies of blacks; 25 in all. In addition to a quantity of brood to make nuclei and one large natural swarm, the original Italian colony, has given something over 100 lbs. of comb honey.

I think it may be safely asserted that a good colony of Italian bees, except in a year of total failure, yield from 50 to 200 lbs. of honey, besides enough to winter on. Of course they should be in a good hive, and be properly managed. The Italians being virtually moth proof, the only draw back to successful bee-culture here is removed. A swarm put in a good hive is a fixture. There is no necessity for removal or labored preparation for winter. Only occasional attention is needed, except in time of swarming and harvest.

The main point is of course the honey resources, which are abundant. Pollen is gathered every month except Nov. and Dec. There are a succession of flowers commencing with willow and red-bud, followed by fruit blooms, clover, poplar, and many others. There are two plants that excel all others in this locality and I will mention them particularly. The first is what is called by some the swamp woodbine. It grows in rich bottoms, covers all small growth in its reach and often climbs to the top of the tall gums, throwing out its graceful festoons of white flowers from the outer branches. It blooms during July—the yield being most abundant about the middle of the month. There are great quantities of it within bee range of my apiary—enough I suppose for 500 colonies. The honey is of a beautiful light color and of delicious flavor.

The other plant commences to bloom on the first of August, and is commonly called "August flower" and "bitterweed." It is a species of chamomile. I think it was introduced here in 1869-70, with the Canada thistle, by the hay fed to horses in the barracks of the federal troops. I notice that it is spreading in the country around and as yet has well defined limits. It occupies all the commons—every spot at all fertile—and yields abundant honey of golden color, all through August to about Sept. 20. The objection to it is, that the honey is bitter and of course not salable. The apiarist would have to utilize it for winter stores, comb-building, making nuclei, &c.

After August flowers we have golden rod, asters, the butterfly weed, &c. My bees are still gathering pollen and small quantities of honey.

But all sources of honey amount to nothing unless the bee-keeper adopts a proper uniform system and a proper hive. I commenced with a regular Langstroth hive, but came to the conclusion that there was too much floor room to allow the bees to defend themselves to the best advantage against the moth and other enemies; that being longer from front to rear, than from side to side, was an objection, especially with reference to preserving heat in winter, that a hive should be of such a size as to necessitate a second story for winter and summer in order to allow upward storage, and to let pent up heat and corrupt air pass up. Moreover a long frame is disadvantageous in making nuclei and swarms, getting straight combs, handling, &c. With these views I shortened the Langstroth frame and except for nuclei, use a second story. The first story is a perfect square 9½ inches high, the tops of the frames being exactly even with the top of the sides; the second story projects beyond the first story to the right and left. The wings of the second story are, however, cut off from access to the bees by division boards until they need this extra room. There are in first story 1,450 cubic inches—in the entire hive about 4,000 cubic inches. A swarm is hived in the first story, a cloth prevents access to the second story. As soon as the bees have filled the first story, the combs are examined and all drone comb removed. They are then allowed access to the second story, division boards preventing them from occupying the wings. When they become crowded the division boards are removed, the combs spread apart and empty frames or combs put in. They work with a rush to fill these empty frames. The first story is never disturbed as a rule, no honey, at least, is ever taken from it and it is only looked into only for purposes of artificial swarming. All manipulations, removal of honey, &c., are confined to the upper story. I think it highly advantageous to the bees to leave a portion of their domain entirely undisturbed. They work with more energy. My first story being small, no loss is suffered from this course. When full the entire hive holds 25 frames. The greater part of my Italians are in these hives with 25 frames and I will let them remain just as they are all winter. They have more stores than are necessary, but that is an advantage. Bees are not gormands.

By the above plan I think the wants, necessities and aspirations of a colony of bees with reference to this climate are satisfactoy and that with the proper attention, every drop of honey they can possibly gather will be obtained.

Grenada, Miss., Oct. 10, 1879.

For the American Bee Journal.

To find a Black Queen in 3 Minutes.

C. W. TAYLOR.

I allow myself 3 or 4 minutes to hunt up a black queen at this season of the year, after the honey season is entirely over. I have but 3 frames to examine, and can frequently lift up the frame she is on, at the first attempt. To do this, the hive must be prepared beforehand. I first lift the honey-board and if there has been a space of more than 5-16 allowed between the board and the top of the frames, it will be filled with comb and honey; I then prop up the honey-board about 3 or 4 inches, and close the hive until the bees have cleaned off the honey. As soon as this is done, I carry away the honey-board out of sight of the bees, and have a clean one ready to take its place. I now clean off the tops of the frames, and cut out the fastenings between the frames, collecting carefully all the pieces of wax and putting them out of sight. I then loosen all the frames, and draw over toward the cool side of the hive all the frames but 3, on one of which the queen is to be found. In drawing them over I arrange them so closely that a bee can just pass between them, this will leave a space of over 1 inch between the main body of frames, and the 3 that are on the warm side of the hive. In arranging the frames in this way, should it take more than 4 or 5 minutes I make two operations of it. The bees are now ready to be fed. I use a very small feeder, preferring one holding not more than a gill, as the feeding must not be overdone. I place this feeder exactly over the center of the middle frame of the three, and feed regularly every night or morning, and on that middle frame the queen will commence laying and can easily be found, especially after the eggs begin to hatch. I have fed in this way in the evening and found the queen laying prolifically the next day.

Oakford, Pa., Oct. 15, 1879.

For the American Bee Journal.

Items from North Carolina.

R. C. TAYLOR.

Many of my friends, who keep bees are adopting the Langstroth hive. Many also have bought Italian queens, and think the bees are so far ahead of blacks, that there will not be a black bee in 40 miles of us, in a year or two.

BEES CARRYING CANDY OUT OF HIVES.

About one month ago, a gentleman of our town, Mr. Davis, told me that he intended to destroy several colonies of black bees he had, in order to start in the spring with none but pure Italians. I begged for the little fellows to be spared, and he told me that if I would drive them out of the box-hives, I could have them. I did it at once, and as I had any number of queens, several of which was tested, I at once mixed two of his colonies, destroyed the black queens, and sprinkled all, even the new tested Italian queen with peppermint syrup, shook them lively in the box and emptied in front of hive.

The queens were received in good order, and fearing they needed help, I gave each colony one frame of nice pure coffee A sugar candy. Honey was not coming in to amount to anything, yet the bees commenced picking that candy out, and are at it even yet.

I took out one frame, and gave it to a colony of pure Italians, and they seemed to understand that it meant business and cost 10 cents per pound, and was too good to waste; they carried it into their cells lively, not taking one particle outside of the hive!

EXPERIMENTING.

One colony of bees was devoted to the above heading. I swarmed them artificially through the year, making nine good colonies (all have plenty of stores for winter) and taking 25 lbs. of honey from the parent colony. I used foundation of course, and got the surplus in 1-lb. boxes. The season here upon the whole, has been very poor and but little surplus was stored. During the early fall, honey came in for a few days tolerably fast—even causing many to swarm. Very little swarming in the early spring, the usual time in this latitude.

HONEY MARKET.

Our home market has been very dull, honey in many instances selling in comb for 15c. per pound. Mr. Bloom, I see by last month's issue of JOURNAL, sold, so he says, 150 4-lb. boxes at $1.00 each. My friend G. H. Lamb, of Wilmington, sold his in 1-lb. boxes, at 25 and 30 cents per pound, and thought he was doing poorly!

I think extracted honey would pay here better than comb. I think perhaps I shall purchase an extractor next season, and see how it will "pan out."

WINTERING BEES—FOUL-BROOD.

Have never heard of a colony dying through the winter here, but have seen them "pretty low" from starvation during the spring.

Our bee-keepers never have seen a case of foul-brood—many never heard of it.

Wilmington, N.C., Nov. 1, 1879.

For the American Bee Journal.

Comb vs. Extracted Honey.

LOUISIANIAN.

I have been a subscriber to your JOURNAL for two years and have found everything I could wish for in it, except a comparison of the profits of comb and extracted honey. Down here we raise extracted honey almost entirely; in fact I don't know of an apiary that is devoted to comb honey. What I would like to have compared, is: How many more pounds of extracted honey can be gotten from a hive than comb honey, and whether the higher price paid for comb honey will make up for the greater amount produced by extracting.

Then when one has no home market cannot the extracted honey be shipped for much less cost than the comb? I ship mine in 40 gal. barrels, or 480 lbs. and get it to the merchant in New Orleans for about $1.00; the barrels cost $1.60 each, and can be bought within a mile or so from home. I would like to hear from some one who raises both, the costs of selling and producing each kind. The year 1879 has been the worst year ever known in Louisiana, colonies not averaging more than one gallon each of surplus.

[We have no doubt but that so much more of extracted honey than of comb honey can be produced to pay the producer better, especially if he is sure of a market for it. As to the exact cost of production, we would like to hear from those who have made it a study.—Ed.]

For the American Bee Journal.

Spring Dwindling.

N. H. BROWN.

In my communication published in the August number, I promised to give what I thought was the cause and cure of spring dwindling. This trouble, undoubtedly, has its orgin in a variety of causes, such as the long confinement during the winter months, which enfeebles the insect, and this, added to the sudden changes of temperature incident to early spring, causes a great waste of their numbers; and then, bad honey, lack of pollen, queeniessness, and a variety of other incidents, may cause a diminution of numbers; but none of these causes can account for the wholesale loss reported by some bee-keepers in the periodicals and conventions, for in most of the above cases a fertile queen and good flow of honey in the flowers will soon cure the evil.

It is note worthy that in all cases of serious loss complained of in the discussions on this question, that the bees have been wintered either in the cellar or some place requiring their removal from their summer stands. In fact, some very respectable authorities have traced the cause of the trouble to in-door wintering. I believe this gives a clew to the cause of the trouble, not as a necessary consequence of housing, but indirectly.

It happens in this way; the bee-keeper some cold day proceeds to take in his bees and store them in the cellar or house. Not knowing or disregarding the instincts of the insect, he fails to properly mark his hives and stands, so as to return them when spring comes to their proper location, the result is that when they are put out for a fly, probably 4 out of 5 are not at home, and when they attempt to return they go direct to their old location; which being occupied by strangers, they are either driven out to wander about and perish, or are slaughtered at the entrance.

Last February I put my bees out for a fly on a warm day; one of them I placed in a new location, thinking to establish them there; but in 15 minutes one half of the bees from that hive were circling about their old location utterly lost, and would undoubtedly have perished had I not returned the hive there. Another hive was accidentally faced the opposite direction from that occupied the previous summer. An hour or two afterwards, while going by, I observed as many as a pint of bees on the side opposite, vainly trying to effect an entrance.

When I remove my bees to the cellar, I number each hive on the front side, placing the same number on the front side of the cap; the hive is then removed and the cap taken off and placed on the stand, the numbered side where the entrance should be. Consequently, when the bees are put out for a fly or permanently placed on their summer-stands, there need be no mistake about the exact location of each colony; and should any one make such a mistake, either when putting out for a fly or permanently, they may be assured they will have a bad case of "spring dwindling."

Apiculture is a decided failure in this section this year. I took 45 lbs. of extracted honey—no box honey; have 42 colonies, out of 43 wintered. The only one wintered out-doors, after a vain struggle for existence, succumbed in September. Eight out of the 42 will winter without feeding; 6 of these are pure Italians, and 2 hybrids; 3 of these six Italians furnished the 45 lbs. of honey. All the rest, except 2 queen-breeders are either blacks, hybrids, or Italianzed in June of this year; consequently too late to assert their qualities this season. Who says black or hybrid bees are best?

Plainview, Ill., Oct. 6, 1879.

For the American Bee Journal.

Queens Duplicating Themselves.

J. H. MARTIN.

We wish to inform Mr. A. F. Moon, that if he will hold his proposition open, as given on page 400 American Bee Journal, until next spring, we will send a queen to Prof. Cook, that will duplicate herself every time. I have had two queens this summer that have produced queen daughters that were uniformly as light-colored and marked just like the mother. I will not say that they would bear a microscopic examination, for I never looked at them so closely; but looking at them as we ordinarily look at a queen, I could see no difference and I reared several queens from each of them. These queens I received from Mr. Henry Alley.

It was well along in September when I saw Mr. Moon's article, and I thought it was rather late in the season to apply, as we find it quite difficult to rear queens here in October. If he will make his offer earlier in the season, we will try and accommodate him, for we know we have such queens; and furthermore a daughter of one of these queens has this fall reared three exact duplicates of herself, (i.e.) examined ordinarily, not microscopically.

Hartford, N. Y., Oct. 9, 1879,

For the American Bee Journal.

How to Secure the Largest Income.

DR. C. C. MILLER.

Of a given number of bee-keepers only a small number can pursue specialties. All cannot publish bee papers, manufacture supplies, or rear queens, and make a living at it. I have given up all other business and devote my entire time to the apiary. I have no patent hive to sell, neither bees nor queens, nor any thing but the one item, honey. As a representative, therefore, of the mass of bee-keepers, I ask the question, how to secure the largest income? not because I think I can answer it, but because I honestly and anxiously desire light upon it, such as may be brought out by discussion. I am well aware that the question is a very comprehensive one, and may really embrace the entire subject of bee-keeping; but aside from the topics discussed in the books, there are several points upon which light may be thrown by the experience of the veterans in the business. Some of these points I may be allowed to suggest: Prominently comes up the question, "Shall I devote my entire time to the apiary, or shall I attend to some other business in connection therewith?" For many years I kept a few bees, devoting part of my leisure time thereto, and found it very pleasant, but after the number of colonies increased to 100 or 200 it was not so satisfactory, and for the last year or two I have given up all other business to solve the problem whether my bees would furnish me with bread and butter—a problem not yet fully solved.

Mr. Palmer, I suppose, will tell us to raise small fruits, and possibly that may work well in connection with apiarian pursuits; but my experience with a few acres makes me afraid that gathering the crop would come just at the bee-keeper's busiest time.

Mr. Gastman will tell us to teach, but the man who spends 9 or 10 months of the year in the school-room, unless he has a constitution of iron, has no business with more than enough bees to serve as a recreation. Whilst inclined to the opinion that apistical pursuits had better be followed singly, the question is an open one and I am ready for light.

Is there any limit to which increase of colonies can be profitably carried?

What is the limit of colonies in one apiary?

Shall I attempt to keep more than one apiary?

The general teaching has been that about 100 colonies are enough for one location. Undoubtedly the pasturage has much or all to do with this question. I have some 200 colonies in my apiary, and I am really uncertain whether less would be better or whether double the number could not find enough pasturage on the same ground.

Will it pay to raise crops especially for honey?

I have sowed a good many pounds of alsike, with poor results so far; but the seasons may have been unfavorable for growth. I am of the opinion that if I had this year sowed several acres of buckwheat I should have been the gainer by it, for although buckwheat honey brings a low price, it comes at a time when it can be laid up for winter stores, and if any surplus is taken it is so much clear gain; provided, no other plants are yielding honey at the same time. Melilot, catnip, &c., have their advocates; but can any one, from actual experiment, give us proof that either of these can be profitably planted by the acre.

Passing by the questions as to whether honey shall be in the comb or extracted, foundation used or not, and if used, whether only for starters or full size of surplus box, I come to the important and somewhat perplexing matter as to the disposal of the honey. Much good advice has been given as to developing the home market to which I give a hearty assent, but I am sure it is not to the interest of every large producer to depend entirely upon his home market. So long as I can get nearly or quite double as much for my honey in New York or Chicago as I can in the markets near home, I shall not spend much time in the business of development. I believe it is to the interest of bee-keepers that honey shall become a staple article, so that there shall be some uniformity of price in different places and not, as I have known the present year, honey sold at 10c. per pound in one town and at 20c. in another town 12 miles distant. Probably in time this matter will regulate itself, but a little concert of action may hasten it.

It is only recently that honey is found quoted in the market reports, but it is now considered of consequence enough to secure a regular quotation in some of the leading daily papers. I am of the opinion, however, that the quotations generally given are not in the interest of those who produce the honey, their tendency being to "bear" the market. We should at least look for reliable quotations in our own bee publications, but they are just about as unreliable as the dailies and weeklies. Last fall I made a somewhat careful canvass of the commission houses and other places where honey was sold at wholesale in Chicago, on South Water street, and vicinity. I think I omitted no place in that locality where honey was sold, and at a rough guess I should say I found honey at about 40 places and the poorest comb honey I found could not be bought as low as the highest prices quoted for the best comb honey. This spring I sent to a commission house in Chicago, the culls of my honey, none of it first-class, which was sold for something over 14c. per pound, and at the same time the Chicago papers, the "old reliable" A. B. J. included, were quoting "white clover in single-comb boxes, 10 to 12c." Looking at the last quotation in the AMERICAN BEE JOURNAL, Sept. number, I find single-comb, white, 10 to 12c., and at the same time commission men were reporting sales at 16 to 18c. One of the troubles, about our smaller markets particularly, is that many who raise only a few pounds of honey take it to the nearest market and sell for whatever is offered, without any knowledge whatever of what they ought to receive, and even if they do look at the quotations, they will sell much below the real market. Within 12 miles of my home I saw white clover honey, this year's crop, in prize boxes, which the grocer had bought at 10c. per pound of a man who makes a business of raising honey, and the last I knew had over a hundred colonies of bees, and he takes the bee periodicals, too. I believe he had sold all his white honey at that price.

Another trouble is the large number of houses at which honey is sold in our cities. Most of them know little about honey, and a really nice article will be sold for about the same as the poorest. The producer should know something about the actual state of the market, and when he makes a shipment should send instructions not to sell below a certain price, unless he has perfect confidence that the consignee is fully posted and will get full value. Is it not better to ship to a house which makes a specialty, if not a sole business, of selling honey?

If the National Convention will influence the Chicago papers to give us reliable quotations of the honey market it will not have met in vain.

Marengo, Ill., Oct. 1879.

[The above communication was written by Dr. Miller, as a contribution to the Essay Department of the National Convention, but by an oversight on his part, was not mailed till after the publication of the November number of the JOURNAL. Referring to the want of reliability in the quotations of honey, as given by the daily and other papers, we can only express the opinion that they must necessarily be nominal so long as there is not a recognized grade in quality, and uniformity in the style of preparation for market. Last spring, for several weeks, the daily papers of this city made no changes in their quotations for honey, as the article had become a drug on the market, and the demand was quite restricted. At that time we held several hundred pounds, for which we had in December, 1878, paid 13c. per lb., and which we found exceedingly difficult to sell at 10@11c., even in small lots. The last of it (about 1,000 lbs.) was sold in October at 10c. This honey was in excellent shape (2 lb. prize boxes) but only medium in quality. It is possible, in some instances last spring, much higher figures were realized even for "culls," especially if the parties shipping had relatives or friends engaged in the commission business, or themselves thoroughly canvassed South Water street. And further, it does not necessarily follow, that among 40 houses we can buy honey at the highest figure *they* are paying. By referring to page 342 AMERICAN BEE JOURNAL, August number, it will be seen we advised bee-keepers to "make haste slowly" in throwing their product upon the market.

White clover honey was then quoted "in slow demand at 12@14c.," and a considerable shipment would have been difficult of sale at much reduced figures. In September, a party having several hundred pounds of white clover honey, and unable to get an offer of more than 11c., on South Water street, was about to close out on an offer of 12c. made by a Madison street grocer; but, consulting with us, held to his honey till October 21st, then accepted our offer of 15c., which was the highest bid he could get. We have at times found it difficult to sell honey at the published quotations; and quite as often could not fill orders at those figures. That at a distance of 12 miles from his town, Dr. Miller has seen white clover honey which had been bought by a grocer at 10c. per lb., is not without precedent; last spring white honey retailed on West Madison street, in this city, at 12½c., while *some* commission houses on South Water street were holding it at 15c., in job lots.

We doubt whether the National Convention *could* "influence the Chicago papers to give reliable quotations of the honey market;" and we further doubt whether "reliable quotations" are possible, until a sufficient number of commission houses, with ample means to handle all the crop, may make of honey a specialty. We see no way to get "reliable quotations," unless those quotations be made by the apiarists themselves. To this end we made the following suggestion in our "Report of the Representative to Europe": "We should agree upon a price that will pay for production and at the same time not retard consumption, and then all should be guided by this, and thus aid in establishing a regular market price for honey, the same as is obtained for wheat, corn and oats." When our Societies and Conventions have united the bee-keepers in one fraternal class, and that fraternity works each for the other's welfare, thereby advancing his own, then may we expect "reliable quotations," for they will be based upon cost of production, and supply and demand.—ED.]

For the American Bee Journal.

Bee-Keeping in Idaho.

H. Z. BURKHART.

Perhaps the readers of the JOURNAL would be pleased to know how the busy bee "improves each shining hour" out here in the sage-brush lands of Idaho.

Upon my arrival last November, I learned that there was only one colony of bees in Southern Idaho, and these were black bees; they were hived in the attic of an out-door cellar, and I am told they neither increase nor produce surplus honey. I learned, also, that a few years ago a good many bees were brought here, but from some cause unknown they all died. This discouraged subsequent attempts at bee-keeping until quite recently.

Having some experience with bees in the State of Iowa many years ago, I determined to "try my luck" here in the spring. Accordingly, I wrote to Salt Lake City, Utah, and had a strong colony of hybrids (I ordered Italians) forwarded by express, at a total cost of $27.25. They arrived in good condition April 17th, and that, too, after riding 250 miles on a stage-coach. The fruit blossoms were just passing their best season, and the little toilers went to work with a right good will. Much to my surprise, they swarmed on the 8th of May, and caught me with no hive ready. I put them into a box until the next day, when I put them in a Langstroth hive. This colony gave off two swarms, June 17 and July 2d, so that I now have 4 strong colonies in fine condition for wintering. In addition to this increase, each colony has made some surplus honey, in all 109 lbs., mostly from the old hive. Five-pound boxes readily bring $3,00. I have sold to the amount of $31.25, and still have enough left for spring feeding, if it should be needed. There is no natural forage, the supply chiefly coming from the numerous clover patches and from the vegetable gardens and ranches. We have no rains in summer. All vegetation depends on irrigation, thus securing a constant flow of nectar. Thus far my prospects are good. The winters are not severe, but subject to frequent and rapid changes of temperature. I have packed each hive on its summer stand, after the manner described by Mr. Moore, of Byron, N. Y., in his paper read at the National Convention last month, and confidently await their coming out in the spring.

Boise City, Idaho, Nov. 10, 1879.

Conventions.

Central Kentucky Convention.

The fourth semi-annual convention of the Central Kentucky Bee-Keepers' Association, took place in Lexington, on Tuesday, Oct. 7th. Convention called to order at 10 a.m., President H. C. Hersperger, of Jessamine, in the chair; calling of roll dispensed with; treasurer's report received and filed; minutes of the last meeting read and approved. This being the regular time for election of officers, on motion of C. H. Bean, Sr., seconded by J. W. Egbert, it was unanimously resolved that the following present officers hold over until the first Tuesday, in May next.

President—H. C. Hersperger, Jessamine Co.
Secretary—W. Williamson, Lexington.
Treasurer—J. M. Holman, Fayette Co.
Vice Presidents—J. W. Rose, Fayette county; John F. Bean, Montgomery; J. W. Egbert, Mercer; Thos. A. Hutchcraft, Bourbon; Thos. S. Williams, Woodford; Dr. Jasper, Jessamine; W. B. Herring, Scott.

The President said it is customary for a retiring President to deliver an address, but as by the resolution just passed, he would not be permitted to retire until the May meeting, he would promise his address then, for really he had neglected through a press of business and poor health to prepare any formal address. He said in fact I did not expect to be with you to-day. He arrived in the city yesterday, on his way to Baltimore, had friends in Cincinnati waiting for him, and telegraphed he would meet them Tuesday instead of Monday night. The Secretary had persuaded him to stay over and he had done so. "But my heart is more on my journey to the home of my youth." He then said "but in regard to bee-keeping I can only give you my experience for the past six years, as follows, giving the average amount of honey per colony: In 1874, 83 lbs.; 1875, 60 lbs.; 1876, 66 lbs.; 1877, 66 lbs.; 1878, 66 lbs.; 1879, 15 lbs.; total average per colony for 6 years 59⅓ lbs. Average price for 6 years 20 5-6c. per pound. Average yield per colony $12 35-100c. This is more than we can do with sheep. Can we do as well with any other farm product? In what other vocation can we make as much money considering the amount invested? True, this year the honey crop has been almost a failure, but some years our wheat, corn, and other crops fail, but do we stop? No we go on just as we should in bee-culture.

On motion the President appointed a committee to propose questions for general discussion. The following were read and approved:

1. The best method of managing natural swarms.
2. The best method of artificial swarming.
3. Are drones from an unfertile queen capable of fertilizing queens? Or, are drones of fertile workers?
4. The best method of wintering?
5. The best spring management to produce the greatest amount of honey.

John F. Bean, of Montgomery, then read the following essay, particularly for the benefit of farmers who keep bees, and not for the progressive bee-keepers, as no such warning is necessary:

Hints to Bee-Keepers.

Thee years ago I determined to make bee-keeping a speciality, and have made it a careful study. I have carefully noted the wants of the bee-keeper, the ups and downs, the prevailing ignorance, and the wholesale swindling by patent bee-hive men. I desire particularly to call your attention to this bee-hive swindle. For two or three years past, our country has been over-run by patent bee-hive men. They have been among us like the western grasshopper, trying to devour everything in sight. The beginner and the ignorant have been duped by these wily tongue gentry, and hundreds of dollars have been taken from the country, for bee-hives and fixtures that were worthless.

Kentucky is twenty-five years behind in bee-culture. Her people are many of them entirely ignorant of all the modern improvements, and here is where they are caught. Many of them are desirous of making an improvement, and in looking out for a hive to begin with, most invariably choose the most complicated.

There is only one way to stop this swindle and overcome the prevailing ignorance. It is well known that where bee periodicals circulate, the patent vendor vacates; the two cannot live together. Let it be our aim to encourage their circulation. I do not wish to convey the idea that I oppose patents. It is to the swindlers I allude, men who are claiming patents where none exists.

I might mention many things, but space forbids, I will simply say this, that every good feature about the hive is free from patents; when the Langstroth patent expired, and the patent on Clark's bevel edge frame, the whole thing went overboard. All the patent features I have seen since then only lessens the value of the hive. A simple box with movable frames to lift out at the top, with necessary arrangement for surplus honey, is the best hive. Remember success depends entirely upon you, not upon a hive; choose whatever frame you like, Langstroth, Quinby, American or Gallup, and never have but one size. Don't allow anyone to persuade you to use the drop-bottom slide-frame back-door things with moth traps, draws and glass, you don't want it; let it alone if you want to avoid trouble.

I desire also to call your attention to the condition of the bees at this time. Having examined a great many colonies in different portions of our county, I find many, (perhaps two-thirds) have not stores enough to last two months. I am satisfied half of the bees in Kentucky will die this winter if not fed. Now is the time for feeding. I would urge gentlemen from different counties to write a few bee notes urging bee-keepers to attend to them at once. A few suggestions in your county paper may save many bees. The failure of the honey crop throughout the United States this season and the mortality among the bees in the North and West last winter, combined with the losses that are sure to follow before spring, may lessen the number of colonies one-half. It may be two or three years before we again have such a honey crop as we had last year. The European demand is becoming greater every year. Taking these things in consideration, will it not be best for us to care well for our bees? Let it be the care of every one to get up their honey in the most desirable shape so that it will command the best price ; by this we will build up and not tear down our markets.

AFTERNOON SESSION.

Convention called to order by the President ; after a few passing remarks he requested J. F. Bean, of Montgomery, to take the Chair.

Managing Natural Swarms.

Mr. Bagby said he was little troubled with that, as he always prevented swarming as much as possible ; but if they did swarm in the honey season, he would put them back into the old hive again and keep his colonies full and strong until fall, when it is an easy matter to divide them and make as many colonies as desired.

Mr. Dean said he had practiced Mr. Hersperger's plan, when he knew they were about to swarm he took a new hive and put it where the old one stands ; take a few frames of brood, put it in a new hive, move the old one a short distance, and the bees returning will enter the new hive, feel contented, and probably imagine they have actually swarmed and go right to work.

J. R. Williamson said when bees swarm naturally it is sometimes difficult to get them to stay in a new hive, particularly when the scouts have previously selected and determined on a place to swarm to.

Mr. Spurr, Jr., said he had been in the bee business several years, and he did not think or believe in the theory of bees sending out scouts to select a location.

Mr. Bagby said that he firmly believed honey bees do send out scouts, and has seen it demonstrated.

J. R. Williamson said a good plan of satisfying a swarm to stay in a new hive after swarming, which has proven almost infallible, was to take a frame of brood from an old colony replacing it with frames of empty comb, or comb foundation ; put the frame of brood in the new hive ; the bees will rarely ever leave brood.

Artificial Swarms.

J. R. Williamson said a very successful plan is to take frames of brood from the colonies that are strongest or are about to swarm, replacing each with comb foundation, introduce a young and vigorous queen to each colony made, or have queen cells, remove the old hives if you choose, fumigate or smoke all colonies well during the operation, and all will be well.

Mr. Cunningham said he approved of this plan, although he had not much experience making artificial colonies ; generally lets his bees swarm naturally, but did not believe that natural swarms are best.

Mr. Herring said he was young in the business, but even in this poor season he had taken 75 pounds of surplus honey from one colony ; had always made and built up weak colonies with comb foundation.

Are drones from fertile workers or unfertile queens capable of fertilizing queens?

Mr. Bagby said the cage of drones I hold in my hands are drones of a fertile worker, and it is a remarkable fact that she had chosen all the largest cells to lay in, and never laid an egg in worker comb until all other comb was filled.

J. R. Williamson said he had never thoroughly tested the matter whether drones of a fertile worker are capable of fertilizing, but it is his intention to test the matter, and has no doubt of the results being satisfactory.

Mr. Dean said it is impossible to test the matter, and rather ridiculed the whole proposition.

The Secretary said there is nothing impossible. Before telegraphy, steam, and hundreds of other wonderful inventions were discovered, the men that invented them were hooted at as lunatics, until the grand realizations were accomplished facts. We are all the instruments of a Supreme Being, creatures subordinate to His will, and surely all will acknowledge nothing is impossible with God.

Dr. Van Antwerp said he had not the least doubt but that drones of fertile workers were capable of fertilizing a queen, and would like to see the matter thoroughly tested. It would require great care to carry on the experiment ; it could only be satisfactorily proven where other drones are entirely absent. As he was told by a gentleman who keeps bees on Put-in-Bay Island, (which is about three miles square) that all his bees were blacks, but they had undoubtedly met some Italian drones. So that fertilization in confinement would be the most positive proof, and if he had control of a large conservatory filled with beautiful flowers, he firmly believes he would prove the matter of fertilization in confinement to the satisfaction of all bee-keepers.

The Secretary said the matter under discussion is one of the utmost importance to every intelligent apiarist in the world, and the most important question that has ever been submitted for consideration before this Association.

J. R. Williamson said he had under consideration for a long time a plan of fertilization of queens in confinement and had not the least doubt of its accomplishment.

Mr. Bagby said the only experience of the kind he ever had, when fertilzation in confinement was accomplished, was when once he had a crippled queen that could not fly, he got a crippled drone and put them together, the next time he went to see the queen she was fertilized, and the drone dead ; he thought he had struck a bonanza, and crippled a lot more queens for the same purpose, but his hopes were "blasted," his fortune gone.

Mr. Cunningham said he hoped Mr. W. would go on with his experiments, and wanted to see every encouragement extended to any person who would give time, labor and attention to try and discover anything of so much value to the bee-keeping interests.

The best method of wintering bees?

Mr. Bagby said he worked or managed

over 400 colonies of bees, and in regard to the fatality among bees last winter, it was a very severe winter. His hives that were covered with snow came through the winter in the best condition. Holes or winter passages ought to be cut in the combs, so that the bees could pass from one comb to another for feed, without having to pass either over top or bottom, when they are liable to be chilled, and never return to the cluster. He believes that ten colonies starve to death to one dying from any other cause; and no matter what other protection is given them, never fail to have winter passages.

J. F. Bean said that if quilts were put on top of frames, and leave room for bees to pass underneath, would answer instead of winter passages.

Mr. Dean said he used chaff cushions on each side, on inside of hive, and one on top, which kept them warm all winter. He had lost half the colonies he had, but it was done through carelessness in fixing them in winter time; he used frames of candy for food.

W. B. Herring said he had left all his on summer stands and simply took old coffee sacks, put chaff in them, placed them on top of honey-boards, and he lost not one colony; all came through the winter safe, though some were rather weak.

Mr. Bagby said that it is very important to have winter passages, as he has known plenty of colonies to die of starvation and still have plenty of honey in the hive.

Mr. Egbert said he approved of both plans spoken of, but he thought the most important matter was to have young and vigorous queens, keep them laying as late in the fall as possible, and go into winter quarters with plenty of young bees.

Mr. Williamson said he simply encased the Langstroth hive in a rough box, with an air space all around, which proved very satisfactory.

Italianizing an Apiary.

Mr. L. M. Green asked the best way to Italianize an apiary when surrounded by the black bees of his neighbors.

The Secretary said the safest way was to Italianize all his neighbor's bees, or rear Italian drones earlier than blacks appear.

Mr. Bagby approved of the plan, or keep enough queens over winter to supply all colonies in the spring.

Mr. Egbert asked which is the best kind of Italian bees? Said he loved Italian bees, and half the good has not been told of them.

The Secretary said leather-colored queens were general favorites here and in Italy both, at least among the most advanced apiarists; they are good workers, vigorous and profitable, although a great many purchasers want the bright golden queens.

J. R. Williamson said in rearing queens he had always noticed that in very warm weather the young queens will be brighter than in cool weather; that the first queens hatched among a lot of cells, are generally the best and most vigorous queens.

The Secretary said he had visited a large apiary this spring, and found all the best marked bees very small, and the hybrids large; asked how long the queens had been used for breeding from without crossing; they had not been crossed for years. The small bees were undoubtedly the result of in-and-in breeding.

Mr. Bagby said to prevent in-and-in breeding, it is best to raise drones from one queen and queens from another, both of different stock.

The following resolutions were adopted:

Resolved, That this Association appoint a committee of three to enquire into the present State law (if any) as to its force in regard to bee traps or the unnecessary destruction of honey bees, and if said law is deficient in any respect, to draft or cause to be drafted, such a law as will protect the interest of the bee-keepers of Kentucky, and present the same to our next Legislature to become a law. Be it further

Resolved, That the members of this Association denounce, and request the bee-keepers of Kentucky to denounce the unnecessary killing of honey bees, and report any person or persons detected in the willful destruction of said bees.

The President appointed the following committee: W. Williamson, F. P. Scarce, W. R. Moore.

Many other questions were asked and discussed. There was on exhibition a good display of bee-keepers' supplies and several patent bee hives.

As it is the intention hereafter for the Association only to meet once a year, and then for two days instead of one, it was, on motion, unanimously resolved that the Convention adjourn, to meet in Lexington, on the first Tuesday and Wednesday in May next. W. WILLIAMSON, *Sec.*

West Virginia Convention.

The Bee-Keepers' Union Association met at Fairview, West Va., on Sept. 23, 1879, and temporarily organized by calling Mr. J. A. Buchanan, of Holliday's Cove, to the Chair, and Thos. Lloyd, acting as Secretary.

On motion of Mr. D. H. Yant, the Associaton proceeded to organize permanently. The Chair appointed a committee, to nominate permanent officers, consisting of H. S. Shull, A. J. Fisher and D. H. Yant.

The following were appointed a committee on constitution and by-laws: D. H. Yant, Thos. Lloyd and H. Fisher.

The committee on nomination reported the following, who were duly elected: President, John A. Buchanan, of Holliday's Cove; Vice Presidents, Henry Fisher, of East Liverpool; Philip Freshwater, of Paris, Pa; Secretary, Thos. Lloyd, of Fairview, W. Va.; Treasurer, R. H. Brown, of Fairview, W. Va.

After adopting the constitution and by-laws the Association, adjourned to meet at 1½ o'clock, p.m.

AFTERNOON SESSION.

Called to order, President J. A. Buchanan in the chair. On motion, an enrollment of members was made.

Italians vs. Black Bees.

The Association being now fully organized, the question, "Are Italian bees superior in every respect to black or native bees?" was taken up and discussed in the affirmaby D. H. Yant and A. J. Fisher, whose opinions were that the Italian was superior to the black bee for working in top boxes. They called for the proof of the Italian bees working on red clover. They said they favored the black bees.

Mr. Alpheus Chapman had kept bees for upward of 50 years ; he had better success during the past 20 years since he operated with the Italians ; the Italian bee is less liable to the diseases prevalent with bees ; the Italian bee was the best worker out'; hybrids were also good. Advised the ladies to keep the Italian bees on account of their amiable disposition and beauty.

Mr. J. A. Buchanan was of the opinion that the native or black bee, when properly cared for, would produce as much honey as the Italian, and be as prolific.

Mr. H. Fisher gave it as his opinion that the black bees are superior to the Italian, acknowledging that Italians are better for increase of colonies, but not for production of honey.

Mr. Joseph Brunton stated that his blacks kept better than his Italians during the past winter, claiming that hybrids produced more honey for him than any other bees in his apiary.

Mr. Geo. T. Newell spoke in favor of the Italian bees, in that they produced more honey for him than the black bees did for his neighbors ; his Italians commencing to work in top boxes sooner than the others.

How to Winter Bees.

The next question, "Shall we winter our bees in winter depositories or on their summer stands ?" was taken up and discussed by D. H. Yant, Alpheus Chapman, and others.

Mr. Chapman thought that locust honey was best for wintering bees ; his manner of wintering is on their summer stands, in sheds ; protecting them from the weather, cold winds, &c., with straw, keeping them dry and cool, but not so as to freeze, discussing the subject at length.

Which Way to Face the Hives in Winter.

The question was asked, by Mr. Geo. T. Newell, "Should we, if necessary to winter on summer stands, face our bees to the South ?" Answered affirmately.

The following resolution was received and adopted : *Resolved*, That in connection with this Association, at our future meetings, there be placed on exhibition (in such a manner as not to interfere with the regular order of business), hives, honey and implements of the apiary.

Owing to the distance some of the members of the Association had to travel, together with press of business matters with all, it was deemed not practicable to continue longer in session at this time. It was therefore, *Resolved*, That we hold a convention in the spring of 1880, at the call of the executive committee.

The Secretary made the following report: Members enrolled, gentlemen, 17 ; ladies, 6; otal, 22. Cash received, $7.00; expenses, $1.30; balance in hands of Treasurer, R. H. Brown, $5.70. Adjourned.

J. A. BUCHANAN, *Pres.*
THOMAS LLOYD, *Sec.*

N. W. O. Bee-Keepers' Association.

Met in Druid hall Toledo, O., Oct. 17, 1879. The meeting was called to order by President Williams. Minutes of last meeting were read and approved. The constitution and by-laws were read and opportunity offered for visitors to join the Association. Several availed themselves of the opportunity, the President stated that several members from Napoleon could not be present as the court of common pleas was in session, and their presence was required. The corresponding Secretary reported, submitting some correspondence which was received and placed on file.

The subject of wintering bees was discussed. Several members gave their experience in that direction, and the time was occupied until noon when the meeting adjourned until 2 o'clock.

In the afternoon a motion was made that the Convention appoint a delegate to attend the National Convention at Chicago, with instructions to ask if that Convention had any thing to do with the American Institute Fair held in New York last October. Carried. On motion Mr. Jno. Y. Detwiler, was appointed the delegate. Carried. Opportunity was then offered for conversation among visitors and members, and the various methods of wintering were discussed. In due time the meeting adjourned to meet in Delta, Ohio, the first Thursday in January, 1880. JNO. Y. DETWILER, *Sec.*

Central Ohio Convention.

The October meeting was held at Columbus, O., on Wednesday Oct. 15 ; J. W. Newlove, Vice President for Franklin county, in the chair, and S. D. Riegel Secretary. After the usual preliminary business, the Secretary read the question selected for discussion, as follows :

Is Bee-Culture subject to more Failures than Farming or Stock-Raising ?

H. Culp held that bee-culture, as a specialty, required much study, practice, and care and in consequence more made failures of it than those engaged in farming and stock-raising. He had grown and handled various products, and found that none of them required the same amount of study that bee-culture did.

K. K. Parker, said that farming and stock-raising also required a great amount of study in order to meet with success, and in reality his views were somewhat in opposition to those advanced by the former speaker.

Vice President Newlove thought that bee-keeping properly managed, was no more risky than farming or any other business. We should be more vigilant in poor seasons ; give more care and feed well ; then failures will not often occur.

The Secretary corroborated Mr. Newlove's views, though he admitted that too many make failures of the business because of not giving proper attention to it as a matter of business. Our grain crops are subject to serious failures some seasons, in consequence of drouth, insects, &c.; whole herds of swine are sometime cut down with cholera; cattle also, in some sections, and seasons, fall victims to fatal diseases, and in view of these, failures are just as liable to occur in these industries as in bee-keeping; but not when such care and attention is given to the latter, as is generally given to the former industries.

Mr. McBeth said he had but little experience in farming, but had considerable in bee-keeping, and thought the difference in favor of the latter would equal the formar two to one, with similar care and attention.

Mr. Oldham thought bee-keeping, if well managed, was no more subject to failure than farming or stock-raising.

Mr. Chambers asked if there was any difference in hives with reference to failure or success in bee-keeping?

Mr. Oldham answered that bee-keepers should keep but one kind of hives for convenience sake, and none but movable-frame hives were considered of any value.

In answer to the questions to the comparative value of comb or extracted honey, Mr. McBeth said, we must produce comb honey to meet the demands of the market.

Mr. Culp said he produced mostly extracted honey, and intended to continue its production. He put nothing on the market but a pure and good article, put up in neat packages, properly labeled, and was creating a market for it in this way.

Bee and Honey Shows.

Vice President Newlove thought some action should be taken by the Association to have the State Board of Agriculture offer more encouragement to the bee-keeping industry; he thought they did not appreciate its importance, as no suitable place for exhibiting bees, honey, hives and other apiarian supplies has, as yet, been furnished at their fair. More liberal premiums, including a larger class, should be offered by the Board.

The Secretary thought it was probably an oversight on the part of the Board, coupled with the neglect of the bee-keepers, that the claims enumerated have not received attention before. That the Board would no doubt, do what was fair and right, if the matter was properly presented to them.

A committee of three was appointed to confer with the Board at its annual meeting, and present the claims of bee-keepers.

State Association.

Some discussion was had as to the feasibility of organizing a State Bee-Keepers' Association, composed of the district and county Associations throughout the State, and to be held at some central point. Thereupon a committee of two was appointed to confer with kindred Associations in regard to the same. Dr. L. C. Vernon, of Circleville, and S. D. Riegel, of Adelphi, were constituted said committee, and will report at the next meeting.

The Secretary was requested to select a suitable subject for discussion at the next meeting. The following was selected: Who should keep bees.

A vote of thanks was tendered Jas. Fleming, Secretary of the State Board of Agriculture, for favors extended to the Association during the meeting.

J. W. Newlove exhibted a case of nice honey, in single comb sections.

Mr. Oldham exhibited a new bee-feeder, which seemed to possess some valuable points. He also exhibited samples of Bingham's Smoker.

The next meeting will be held at Circleville, on the third Wednesday in November next, at 10 a.m. J. W. Newlove, *Pres.*

S. D. Riegel, *Sec.*

West. Ill. & East. Iowa Convention.

The sixth semi-annual meeting of this Society was held at Burington, Iowa, Oct. 30 and 31 1879. Called to order at 10 a.m., by President L. H. Scudder. The attendance being small in the morning, the forenoon was passed in social converse.

Messrs. E. D. Godfrey, Rev. O. Clute and L. H. Scudder, were appointed a committee on programme for discussion.

AFTERNOON SESSION.

Admission of new members. The following persons were added to our membership:

Mrs. S. J. Rider, Fairfield, Iowa.
W. E. Baker, Trenton, Iowa.
Perry Morrison, Trenton, Iowa.
John Hanna, Danville, Iowa.
Wm. Parr, Burlington, Iowa.
E. L. Dunn, Alexis, Ill.
Mrs. Wm. E. Bell, Dover, Iowa.

The unprecedented failure of the honey yield throughout the United States, caused a great many bee-keepers to lose heart and feel discouraged; hence many were not present who otherwise would have been; but the attendance was quite large, and among our best members were those present. All were enthusiastic and full of "grit" to go ahead and try it again.

The report of the meeting at Hamilton, was adopted as published in the American Bee Journal.

The chairman of the committee on adulteration, Mr. Ch. Dadant, not being present, the report was postponed.

Mr. Clute said that at the meeting of the National Association at Chicago, the members expressed themselves as being not afraid of adulteration as much as formerly, as the low price of honey debared the adulterators from the profitable use of a spurious article.

Mr. Scudder said that we ought not to give up the warfare until this adulteration business was *completely dead;* for if honey rises in price again, dishonest parties will go to work again. Our Representative thinks Congress will reach our case some time this winter.

Rev. O. Clute gave a short address of welcome on behalf of the citizens of Burlington. He said: "We come together at this time at the end of a bad season; the prospects in the spring were very flattering; the season opened well, but white clover quickly failed, and the fall harvest proved no better, and now we find ourselves not very rich so far as honey is concerned, but we must not get discouraged; bad times will come as well as good ones. At the Chicago Convention, many gave only the dark side; saying that bee-keeping was at an end, wanted to dispose of bees, hives, etc., the general spirit was gloomy. Disaster comes to every business, not only to the honey producer, but to all. Sometimes wheat and corn are raised in too great abundance to be profitable; again prices go high on account of short crops. We now come to consult our local interests—how to winter our bees, to get them through the spring, to prepare for the next seaeon's honey-crop, and dispose of it if we get it. In behalf of the citizens I extend their hearty congratulations to you over the pleasures of the present meeting."

L. H. Scudder, said he was disappointed at this meeting; he had not expected to see so many here; he thought they would remain at home, because discouraged at the hard rows they have had this season; but he was glad to see that they were not disheartened, and stand strong for future efforts. He said he had been through such seasons before, and had a great deal of pleasure with the experience. Some stuck to it and went ahead, and but few gave it up entirely.

The Composition of Royal Jelly.

Question: What is the Royal Jelly made of, that is fed to queens?

O. Clute. I think but very little is known on this subject; some think it is made of young bees and water.

Overstocking.

Question: How close ought apiaries to be kept to each other? How many colonies to each?

D. Rider. One season a friend of mine had 270 colonies; we had 100. Of course these bees got their stores from the same district; that was a very successful season, we got a large yield. This year my friend had about 160 or 170, and we had about the same. At the close of the white clover run he had 2,400 lbs., and we 1,010 lbs. of extracted, and 1,200 lbs. in the prize box, and in a few days the honey season was over.

O. Clute. Does not this question depend more on the various sections, and more or less flowers in different places. Put 100 cattle on 10 acres in a dry season and they would soon be out of food. On a larger area they would not get short.

L. H. Scudder. I have been troubled to answer this question. We claim this to be one of the best sections for honey in the world. In Germany as many as 2,000 colonies are kept to the square mile, while we think 500 to the square mile is too many. Take one apiary of 150 colonies and get their yield; then take another out of your range, and see if it does any better with less bees? I thought I was overstocked because I did not get what I thought I ought to. D. D. Palmer had a low yield this year, but his neighbor, with less bees did no better. Your bees that only get a little, would do better if you only had half as many.

Geo. Bischoff. A square mile in Germany is as much as 24 square miles here.

E. D. Godfrey. I should think by this year's report that we are all overstocked.

O. Clute. Small apiaries get no more honey than large ones of 100 or 200 colonies. Some who have the largest number in one place sometimes get as much per colony as any with a less number. As long as the pasturage is good, we get as much from a large number as from small lots. The season in Canada, this year has been very good and large crops are reported.

Purity in Breeding.

Question: Are Italian queens reared by black bees, as pure as those reared by Italian bees?

E. D. Godfrey. I do not think it will have any effect at all.

O. Clute. I think all experimentors say that the feeding of young Italian queens by black bees does not in any way effect the nature of the Italian bee. They compare it to the same principal of one hen hatching another hen's eggs.

Thos. Dunn. I got an Italian colony last fall; divided them, put a frame of brood in a black colony, and the queen reared there is a lighted one than the old Italian queen.

Eggs Producing Queens and Workers.

Question: Are eggs that produce a queen and a worker the same? Is it not the food that develops the queen?

A. Reynolds. One egg is put horizontally the other perpendicularly; I think this makes some difference.

O. Clute. There is no question but that the amount of food and room given makes the difference in the development of the queen or worker bee.

Ripening of Honey.

Question: If, during a honey season, the honey be extracted from a hive every two or three days, will such honey ripen or become thick?

Geo. Bischoff. I can see no difference between sealed or unsealed. I extracted some last fall; in two weeks it was candied like lard.

Will. M. Kellogg. I have extracted such honey and could see no difference as to quality, where it was allowed to stand for some time in jars covered with cloth and board, so that the air could circulate freely. If canned up, I think it would sour.

O. Clute. In reading the various bee periodicals I find that some bee-keepers extract every three or four days. In California it is put in large reservoirs and drawn off from the bottom and it is said their honey ripens perfectly. It is also done in the East. This question has a very important bearing. If we can extract every three or four days, we can get a much larger yield.

Geo. Bischoff. I think the weather makes much difference. In hot weather uncapped honey looks foamy; I do not think such honey would keep.

D. Rider. Have extracted 1,010 lbs. from 20 two-story hives, 10 frames to each story; those on the top had been extracted the fall before, and contained very white comb, we put some of these on top during our large honey flow, and soon found the queen up there, which induced the bees to climb up and store a great amount of honey. It was all capped over in a short time; in one week I extracted twice, and it was all sealed.

L. H. Scudder. We cannot follow California; they have no rain fall there to prevent working; it is dry here, with occasional rains; their honey becomes very thick, our's contains more water. Let us try experiments next season for ourselves. In California they try to get over all their colonies once a week. It has been said that it is not safe to extract till it is all capped, and many dislike to own that they do it.

E. C. Crane. The first sections I took off last year I put in the cellar; in four weeks some of it was sour and not fit to sell. My extracted honey did not candy till March. That extracted last June and July is already candying. I have honey that was extracted all at one time, one jar candied, the other not. I think that from old dark comb it candies first.

L. H. Scudder. Were those combs all empty and put on at the same time?

E. C. Crane. Nearly so.

L. H. Scudder. The honey might have been gathered from different sources.

The Best Age for Queens.

Question: To what age may a queen be profitably kept?

E. D. Godfrey. Until this year, when a colony did not give me 25 lbs. of surplus, I pinched the queen's head off, but if I were to follow that plan this year, I would only have 2 queens left. I would not keep them over two years.

E. C. Crane. I much prefer young queens.

O. Clute. I think they have the capacity of laying a certain quantity of eggs. Hens are created to lay about a certain number of eggs, and poultry men try to get all these eggs in two years. Is not this also true in regard to bees? Queens can lay about 2,000 eggs per day. If we can persuade the queen to lay all her eggs in two years, it would be much better. As soon as bees can fly in the spring I would feed two to four tablespoonfulls every day, in order to get the colonies strong for the first harvest and the queen laying to her full capacity. Stop feeding when honey flows, and begin again when the flow ceases. I would keep the queens laying by stimulating, during the whole season when no honey flows.

D. Rider. In feeding bees early, is there not danger of the young brood being killed by frost? Have had that experience this year. I generally feed in a large reservoir behind the hives.

O. Clute. I think Mr. Rider is right. In a sudden change to cold weather much brood might be injured. I think the beekeeper of the future will use the chaff hive, which gives a warm dry nest for the bees. Any change after the last of March or the first of April, causes no danger in these hives.

E. D. Godfrey. I do not think it necessary to feed to promote brood rearing if the bees are properly protected and wintered. If they have plenty of honey and it is desired to feed, uncap some of it.

O. Clute. There seems to be a large amount of testimony given in favor of stimulative feeding to promote breeding, in foreign countries as well as at home. The general weight of testimony is in favor of it.

Feeding Bees.

Question: Will it pay to feed bees now to winter them over?

O. Clute. If one has a fair quantity of bees, enough to winter if they had food enough, a feed made of ⅓ water, ⅔ sugar, would be good, 15 lbs. of sugar costing $1.50 would make 20 lbs. of feed which ought to keep a colony through. I think it will pay.

L. H. Scudder. I have kept bees through the winter in a cellar with 5 lbs. of honey; after they are taken out they consume more. I had better success with such than heavier ones. Have had sugar granulate in combs and feeder. I think sugar syrup ought to be well boiled. The different kind of sugar used must determine the amount of water required.

Paul Lange. With the Langstroth hive on the winter stand, how would you feed during winter?

L. H. Scudder. You cannot feed in the winter, it is too much trouble.

E. D. Godfrey. I fed 5 barrels of sugar one fall, 18 lbs of sugar to 1 gallon of water. One quart of syrup makes 2 lbs. when sealed in the comb. For summer feed would use ½ water.

D. Rider. I have wintered on 10 lbs. and less. If you want to winter well, feed in the fall; make a pretty thick syrup, use a large reservoir behind, back from the apiary, out of doors. There are but few bees of other persons near me. We always equalize our colonies before feeding. In less than a half mile a molasses factory was started, I was losing many bees, I fed as much as 20 gallons a day of thick syrup, it kept my bees at home and did not start them at robbing. I kept the entrances nearly closed.

L. H. Scudder. I think you cannot do a worse thing than to give bees honey in the open air. They are more eager for comb honey than extracted. I prefer to feed with combs of honey from stronger colonies.

D. Rider. This year it was dangerous to open a hive on account of robbers and I had to resort to outside feeding. I have fed comb honey the same way.

L. H. Scudder. I desired to do some extracting but the robbers pitched in, and got very thick. I use a portico hive and in moving, I cover these porticos with wire screens. I put these wire screens on the hives before I began to extract. The robbers got into the hive, and I closed it up and went on to the next; the robbers would get their fill of honey and try to get out. After the bees got the loose honey taken care of in the hive, they were ready to fight, and took good care of the robbers. I then took off the wire. I can work all day and have no trouble, even at this time of year.

E. D. Godfrey. I prevent robbers from working at such times by smoking every colony in the yard.

Feeding Flour.

Question: Is it advisable to use rye flour in the spring?

Geo. Bischoff. My bees are very fond of it; they got so that they looked for it every time I came into the yard. Some think it is injurious.

H. Brown. I have never fed rye; I take

sugar syrup and stir in wheat flour until it is quite thick, then let it cool till it is hard, like candy, in pans. I then turn these pans over the frames, under the quilts.

J. W. Barlow. I use oat and rye flour, oat flour and corn meal together; the bees used bushels of it.

W. F. Bell. I like the unbolted rye flour best; I fed 160 lbs. of it last spring, about February.

E. C. Crane. Have fed rye and corn meal I think they rear brood faster with it.

L. H. Scudder. I have fed as much as 2 bushels a day; but they did not keep it up long; not more than 3 or 4 days. A few bright days brings willow out, then bees abandon the flour. Feeding rye and oat meal will stop robbing in the spring.

Question: What do bees get from box elder.

L. H. Scudder. I think they get honey.

Providing room for Queen to lay in.

Question: How can we prevent the bees from crowding out the queen in a large flow of honey?

L. H. Scudder. I think the main cause is cool weather during the flow of honey; cool nights drive bees out of boxes, and as it does not get warm enough to let them return to them, they have to store it below.

E. D. Godfrey. A good queen will not lay at that time of the year, (the last of Sept. or first of Oct.)

H. Brown. I have plenty of colonies with brood hatching now.

E. D. Godfrey. Old queens will not lay as late by 30 days as young ones. This year's queens will lay very late. I find colonies of bees with August queens come out best in the spring.

L. H. Scudder. I do not fear any bad results, if I do not find brood in October, if there are already only bees enough.

Prolific Queens.

Question: What method shall we pursue to procure the strongest and most prolific queens?

Wm. H. Smith. Take eggs from the most prolific queen, then take the queen from a strong colony and let them raise the queen cells from these eggs, and rear your queens from the best cells. If no honey is being gathered at the time, you must feed. Rear them as early in the spring as practicable.

Question: Has the size of the queen anything to do with her prolificness?

Will. M. Kellogg. No! the best and most prolific queen I ever had, was the smallest one in the yard.

E. D. Godfrey. I have seen some small queens far more prolific than larger ones.

Question: Is a queen reared from a larvæ three days old, as good as one from an egg?

W. H. Smith, and Geo. Bischoff. Yes!

Question: Is a queen reared at a season of the year when no honey is coming in, as good as any other?

Geo. Bischoff. I think it all depends on the weather.

Will. M. Kellogg. Yes, if the bees are fed during the time, and it is not too cold.

Adjourned to 7:30 p.m., at which time the members re-assembled to hear the Rev. O. Clute, of Iowa City, Iowa, speak on the subject of "Points of Progress in Bee-Culture," but nearly all present being bee-keepers, it was thought it would be of more interest to hear a report of the National Convention at Chicago, and the evening was spent very pleasantly in listening to an interesting account of that meeting by Rev. O. Clute and E. D. Godfrey.

MORNING SESSION, OCT. 31.

Called to order at 9 a.m. The following Essay was read by the Secretary.

Our Society.

It has been said that bee-keepers' societies are run in the interests of bee publications and supply dealers. I differ from that opinion very decidedly. It is true, at our Conventions are seen the wares of various dealers, and copies of the various bee periodicals. But have we no need of these? Are we not using them every day? What practical bee-keeper of to-day would try to get along without prize boxes, shipping crates, comb foundation, honey extractors, honey knives, smokers, etc. The demand that has grown up for honey put up in the highest fancy styles, compels us to adopt and use these attractive packages if we would hope to compete with our brother bee-keepers wish any show of success; for as a general rule, it is the style of the article that sells it, more than its merits.

Admit that we have to use these supplies, next comes the question, where shall we get them? But very few of us can afford to own a horse or steam power machinery for making them, hence we must apply to those who can make them for us, and were it not that there are such dealers, the majority of us would have to give our honey away in the old fashioned, rough, inch, board box. Next are the bee periodicals, without which our bee-keeping interests would still be almost unknown, instead of taking their place by the side of other long-established industries, as they are fast doing.

Our bee papers are ever on the elert to forward our interests in every possible way, and to promote the science of bee-culture to its highest attainable point. "But they make money by it," say some; my friends, do you work for nothing? No more then should we refuse to pay these men for their efforts in our behalf, as we would pay our lawyer or our doctor. I claim that our societies are working for the interests of all classes: the producer, consumer, and all others connected in any way with the pursuit.

There are more features of these Conventions than just that of dollars and cents. The social enjoyments had at our meetings, when we grasp the hands and see the smiling faces of our brother or sister bee-keepers, more than repays all the cost and trouble it takes to get there. I have heard some say, "what is the use of my going, they cannot learn me anything." Well, suppose they cannot, it will warm up your hearts and do you good to meet your fellow workers now and then, and perhaps you may be able to learn some one else a little. I heard of one member coming 50 miles to attend one of our meetings, saying, "these bee-keepers beat any class that I ever met with, they are so cordial, and all seem so anxious to help those who are but learners yet. I would not have missed this treat for a good deal." For one, I can say that these meetings have been among the most enjoyable of my life, and I hope to be able to attend many more of them. Let each one go home resolved to do his or her best to make each meeting as enjoyable as it can be, and make an effort to be present. Long live and flourish "the Western Illinois and Eastern Iowa Bee-Keepers' Society."

President L. H. Scudder then delivered the following essay on

Handling and Marketing Honey.

Permit me to offer for your consideration a few remarks on handling and marketing honey. Much has been written on this important topic and much more can be said to aid us in gaining a just reward for our labor. As you are principally experienced bee-keepers, you understand how to have your honey put up to attract the attention of the consumer. Lest there be some here who are novices still, I will briefly mention a few essentials in the production of honey to command the highest market price.

Fashion to-day is decidedly in favor of comb honey in small, tight, clean sections, weighing from one to two pounds each. The combs should be straight enough to be glassed on both sides, not that all persons prefer buying glass at honey price, but many do, therefore it will be best to suit all, besides good straight combs bear shipping much better than crooked ones. The crate preferred at present is what is called the Prize Crate, large enough to hold from 12 to 24 sections.

Extracted honey sells well in small packages; glass jars do very well, but I prefer tin buckets as used by Dadant & Son. They sell thousands of them annually of various sizes ranging from 2½ to 25 lbs. each.

I omitted to mention in the proper place that to insure straight combs you must use tin separators.

Now a few words in regard to shipping honey. My advice would be: Do not ship a pound until your home market is entirely exhausted. Cultivate your home market to the utmost extent, and by all means, keep it fully supplied at all times with the choicest of your products; even if you are compelled to leave it with your grocers to sell on commission. This you can do successfully, as there will be no difficulty in placing your product on the market in a neat and attractive condition, having done all the handling yourself. Then, too, being personally acquainted with nearly all of your customers you can furnish each one with just what they desire. After you have done all you possibly can at home, you will probably be compelled to seek a distant market, and here is where your trouble will commence. You are well aware that your success will depend on placing your honey on the market in good shape, therefore you will put it in as nice packages as possible. To insure careful handling, label each package in plain letters, "HONEY—THIS SIDE UP WITH CARE," and then as a further precaution superintend the packing in the car. Now you feel certain that it will be all right; but let me remind you not to be over confident, "there's many a slip 'twix cup and lip." Unless your consignee is a careful man and understands handling honey, there is a strong probability that he will leave it to the tender mercies of the "baggage smashers" to be unloaded. Then do not be surprised if in the course of a few days you receive notice that the honey arrived in a badly damaged condition; all your care has gone for nought. Provoking, is it not? I know just how one feels under such circumstances, and I have resolved that hereafter I will go myself and see that it is properly handled, for I know of no worse commodity to dispose of than a broken, leaking, sticky, mass of honey. Here let me say that unless you have witnessed the reckless manner in which railroad men handle goods, you would hardly credit the statement, that I have seen them take shipping crates filled with honey, glassed and labelled as above mentioned, and after piling them 8 or 10 high, run the truck up and tip them over on it with the glassed side down, and after wheeling some distance dump it off regardless of consequences. You will readily conclude that a company that would allow such a useless waste of property should pay for all the damage done, and so they should, but will they? I answer No, unless compelled by the courts.

We will now offer a few remarks on marketing this surplus which you could not dispose of at home. When you reach your destination, see that your honey is carefully unloaded and stored. Then take samples and go to the best groceries in the place and take your orders. Do not be in a hurry. You may work all day without making a sale. Do not be discouraged; you are a new man and they all want to feel of your pulse. After working one or two days you will be tolerably well posted as to the supply and demand. By that time you have probably made one or two good sales; what I mean by good sales, is, selling a fair quantity at a good price. Now you have made a grand stride towards success and you must use it. You must still work on the most popular establishments. It is true they will select mainly from your choicest stock, but never mind that; you must bear in mind all the time that a rivalry exists between these parties. If you make a good sale to Mr. A., when you call on Mr. B. if he seems a little off, you might casually mention the fact that Mr. A. took so much at such a price, and the trade will assume a new phase at once. He will then, in all probability, order more than Mr. A. You will find that one sale helps to make another in nearly every instance. There is another very important matter that you must not overlook: Be careful at all times, if you are not making a sale, not to let your countenance tell it. If you do, the "sharks" will get you, sure. After you get the larger establishments supplied gradually work on down with the smaller ones, and you will soon have your honey worked off and the money in your pocket.

In this way you have been your own commission man, and you may rest assured that you have done better than the best of them would have done for you. No chance for leakage, shrinkage, or eatage, and I suppose I might with propriety add stealage.

Sections and Separators.

Question: Can we get as much honey by using the prize box and tin separators, as by other kinds of boxes?

L. H. Scudder. When I began using the prize box, I thought I would not get as much honey as by the common box. I tried different kinds of boxes to test it and could not discover that I got any less honey. Our greatest trouble is to get men to handle honey without breakage; it is not the motion of the car that breaks the honey. but the men that handle it.

O. Clute. I prefer nailed sections to the dovetailed; also top and bottom of section to be of the same width. I think separators and comb foundation starters essential to success. I use a ladder of comb foundation in one box in each row of the sections.

S. N. Black. If you have a lot of sections well-filled with comb, give one of them to each case of sections on the hive, and the bees will go to work much faster.

L. H. Scudder. I extract from all unfinished combs and save for starters next year. Crooked comb is no objection for a home market, but you must confine it to the home trade. If I had a large home trade I would not use the separators, unless I had to compete with others who use them.

O. Clute. I am inclined to think that large clusters of bees in sections in warm weather is not of much advantage.

A. Reynolds. The starters must not be too wide.

D. Rider. I do not think we ought to use more than a ½ inch piece of foundation in each section.

E. D. Godfrey. At Chicago few would own that they were using it.

L. H. Scudder. A bee-keeper who would not use it, does not know his business.

Who Should Keep Bees.

Question: Should we prevail on people to keep bees?

A. Reynolds. I am in favor of it. It makes home more pleasant to see a few bee hives around the yard.

S. N. Black. Not many are qualified to keep bees; all ought not to try it. Adaptation to the business and location ought to be thought of.

O. Clute. It seems to me scarcely wise to urge people to keep bees who have no qualifications for it, whatever. There is no doubt but what a large number of persons would be benefitted by keeping one or two colonies of bees. It would give them a little out-door work, so needful for good health, a little profit, and a great deal of pleasure.

E. D. Godfrey. Did you ever hear a lawyer, or any other business man say, shall we urge people to take up our profession? I do not think it advisable at all. Supply dealers make the profit on new bee-keepers, not the bee-keepers. We should not advise persons to keep bees any more than those of any other profession should do it with their trade.

L. H. Scudder. The supply dealers do a great deal of damage, represent the large yields too much; novices are liable to buy too much. We do not doubt the truth of these reports; but we do not hear the other side. Papers commenting on the glorious profits of bee-keeping will cause a great many "busted" bee-keepers in the next five years.

O. Clute. It is the same in all other trades; one is seen to do well; others try for the same; those who can, will thrive; others will fail, as they would at anything.

Buying Untested Queens.

D. Rider. I have bought quite a number of queens said to have come from Italy. I paid $20 for one colony. I think the home-bred queens much the best; did more service than the high priced ones. I never bought a dollar queen.

E. D. Godfrey. I am decidedly opposed to cheap queens; I never buy other than tested queens. I know a breeder who sells queens by the thousand; he took his poor queens out, replaced them with imported ones, and sold the poor ones through the country as cheap queens. I think many a report of poor seasons is caused by old, cheap queens.

O. Clute. Are not cheap queens reared in as cheap a way as possible, and thus poor, weak queens are sent out? I think in general, it has a tendency to introduce that kind of queens. Stock breeders pay a high price for good stock, and I think bee-keepers ought to get the best every time.

H. Brown. I have lately bought 6 queens for $5, those hives are now full of bees, and there is more value in those 6 at $5 than one imported queen at $10.

O. Clute. There is no question but what many cheap queen breeders send out good stock, yet the general tendency is to deteriorate our bees.

L. H. Scudder. Many claim that the larger price is for time taken in testing, and that cheap queens are as good only not tested as to purity.

Geo. Bischoff. In a lot of 20 queens, I do not think more than 4 or 5 would be first-class.

AFTERNOON SESSION.

Manner of Cleansing Beeswax.

Question: How shall we cleanse our beeswax so that it is pure enough to manufacture into comb foundation?

L. H. Scudder. There are various ways of doing it. It is no trouble to get wax almost pure if clean combs are used. Cappings are almost pure enough to use without any other work except melting. I melt combs in a large can, putting in 4 or 5 pails of water; when melted, I put a mosquito bar on top, and dip through it into another vessel that contains water; let it cool, scrape off the bottom of the cake, and go over the same process till thoroughly cleansed. If you want to bleach it, put it in the sunshine, or in a very light room. Never heat wax without water under it.

W. H. Smith. Wax may be made dark by using a dirty kettle.

D. Rider. I use a steam wax extractor, and like it best.

E. D. Godfrey. Some of our largest wax producers do not use wax extractors at all.

A. Reynolds. I have tried salt water for melting and caking wax in, and think it separates the dirt better.

Resolutions of Thanks.

The thanks of the Society were voted to Messrs. Geo. Bischoff, Paul Lange and others, for their efforts to prepare a hall, etc., for the meeting; to the papers for their continued notices of the meeting, and to the Reform Club, for the excellent manner in which their hall was taken care of for our use.

Resolved, That the Secretary of this Society be made an honorary member, without expense, in perpetuity.

Whereas, Since our last meeting two of our members, Martin Wirt, Esq., of Keithsburg, Ill., and Mrs. Jas. A. Simpson, of Alexis, Ill., have been removed from among us by the hand of death, therefore,

Resolved, That we hereby express our hearty appreciation of the worth of these friends who have gone from us, our respect for their industry and enthusiasm as bee-keepers, and our sorrow that we shall no more enjoy their kindly presence and help in our meetings.

Resolved, That we extend to the families and friends of these deceased members, our heartfelt sympathies in the great sorrow that has come upon them.

Drawing of Prizes.

Twenty-four prizes were given away to members present, as follows:

1st Prize.—A copy of "Blessed Bees." given by O. Clute, Iowa City, Iowa; drawn by S. N. Black, Clayton, Ill.

2d Prize.—A lamp mat, given by Mrs. Z. Hollingsworth, Montrose, Iowa; drawn by Perry Morrison, Trenton, Iowa.

3d Prize.—The AMERICAN BEE JOURNAL for one year, given by D. Rider, Fairfield, Iowa; drawn by W. E. Buker, Trenton, Iowa.

4th Prize.—A nice bed quilt, given by Mrs. L. H. Scudder, New Boston, Ill.; drawn by herself.

5th Prize.—An imported queen, given by Ch. Dadant & Son, Hamilton, Ill.; drawn by E. L. Dunn, Alexis, Ill.

6th Prize.—A pair of choice fowls, given by J. R. Baker, Keithsburg, Ill.; drawn by Will M. Kellogg, Oquawka, Ill.

7th Prize.—Package of Rocky Mountain bee plant seed, given by Mrs. C. M. Kingsley, Elvaston, Ill.; drawn by L. H. Scudder, New Boston, Ill.

8th Prize.—Package of catnip seed. given by Mrs. C. M. Kingsley; drawn by E. C. Crane, Burlington, Iowa.

9th Prize.—Package of mustard seed, given by Mrs. C. M. Kingsley; drawn by E. D. Godfrey, Red Oak, Iowa.

10th Prize.—Package of unknown seed (very valuable), given by Mrs. C. M. Kingsley; drawn by Wm. H. Smith, Burlington, Iowa.

11th Prize.—Two pounds of comb foundation, given by L. H. Scudder, New Boston, Ill.; drawn by Loren Hanchet, Burlington, Iowa.

12th Prize.—A pair of light Brahma fowls, given by Harmon Brown, Galesburg, Ill.: drawn by Geo. Bischoff, Burlington, Iowa.

13th Prize.—A bee feeder, given by H. F. Putnam, Galesburg, Ill.; drawn by Mrs. Z. Hollingsworth, Montrose, Iowa.

14th Prize.—Picture "Evening Prayer," given by Paul Lange, Burlington, Iowa; drawn by Alvah Reynolds, Oneida, Ill.

15th Prize.—A bread plate, given by Mrs. E. P. Hollingsworth, Monmouth, Ill.; drawn by Miss Mary Scudder, New Boston, Ill.

16th Prize.—A large size honey dish, given by Mrs. E. P. Hollingsworth; drawn by Wm. Parr, Burlington, Iowa.

17th Prize.—A small size honey dish, given by Mrs. E. P. Hollingsworth; drawn by herself.

18th Prize.—China cup and saucer, given by Mrs. E. P. Hollingsworth; drawn by John Hanna, Danville, Iowa.

19th Prize.—One stem honey dish, given by Mrs. Craig Hanna, Gerlaw, Ill.; drawn by H. F. Putnam, Galesburg, Ill.

20th Prize.—A glass pitcher, given by Mrs. Craig Hanna; drawn by H. J. Elliott, Burlington, Iowa.

21st Prize.—A celery dish, given by Mrs. Craig Hanna; drawn by Paul Lange, Burlington, Iowa.

22d Prize.—A pickle dish, given by Mrs. Craig Hanna; drawn by J. W. Barlow, Keokuk, Iowa.

23d Prize.—Small pickle dish, given by John Hanna, Danville, Iowa; drawn by John Hoover, New Boston, Ill.

24th Prize.—A butter dish, given by John Hanna; drawn by Mrs. S. J. Ryder, Fairfield, Iowa.

Mrs. L. H. Scudder, who drew her own prize, presented the bed quilt to the Society, who in turn, on motion of E. D. Godfrey, presented it to the Secretary.

Election of Officers.

The election of officers for the ensuing year resulted as follows:

President—L. H. Scudder, New Boston, Ill.; Secretary and Treasurer—Will M. Kellogg, Oquawka, Ill.; Vice Presidents—E. D. Godfrey, Red Oak, Iowa, and Mrs. Z. Hollingsworth, Montrose, Iowa.

A committee of arrangements for the next meeting was appointed, as follows: T. G. McGaw, Judge John Porter and Mrs. E. P. Hollingsworth, all of Monmouth, Ill.

The usual exhibition of bee-keepers' articles was very small.

Adjourned at 3:30 p. m., to meet at Monmouth, Ill., at the call of the Executive Committee. L. H. SCUDDER, *Pres.*

WILL M. KELLOGG, *Sec'y.*

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Read before the National Convention.

Humanity to the Bees.

BY A. J. KING.

Mr. President, Ladies and Gentlemen:

The subject of humanity to the bees is not a new one. If has been urged almost from time immemorial. Poets, statesmen, philosophers, and philanthropists have depicted in glowing language the cruelties practiced upon the industrious insects, and have awarded prizes for taking surplus honey without sacrificing the lives of bees.

During the past thirty years by improvements in hives and bee-keeping apparatus generally, as well as in methods of management, the "brimstone pit," is rendered not only entirely unnecessary, but positively wasteful and unjustifiably cruel. These new methods of management have been published and practiced far and wide, until there is not a bee-keeper in the country who is not aware of their existence.

The fact that by the new methods more than double the quantity, and honey may be taken in much better shape for any use, with less labor, and no loss of bees, is also patent to all. Yet, notwithstanding all this, each year witnesses the destruction of millions of honey bees, while the country needs a hundred, where it has but one.

The poet Thomson has so faithfully portrayed the cruel and fiendish process of taking honey by the old methods that I cannot forbear repeating his lines:

"Ah see! where robbed, and murdered, in that pit
Lies the still heaving hive! At evening snatched
Beneath the cloud of guilt-concealing night,
And fixed o'er sulphur; while, not dreaming ill,
The happy people in their waxen cells,
Sat tending public cares, and planning schemes
Of temperance, for winter poor; rejoiced
To mark, full flowing round, their copious stores.
Sudden the dark, oppressive steam ascends;
And used to milder scents, the tender race,
By thousands tumble from their honeyed domes
Convulsed and agonizing in the dust.
And was it, then, for this you roamed the spring,
Intent from flower to flower? For this you toiled
Ceaseless the burning Summer heats away?
For this in Autumn search'd the blooming waste,
Nor lost one sunny gleam? For this sad fate,
O man! tyrannic lord! how long, how long,
Shall prostrate Nature groan beneath your rage,
Awaiting renovation? When obliged,
Must you destroy? Of their ambrosial food

Can you not borrow ? And, in just return,
Afford them shelter from the wintry winds ;
Or, as the sharp year pinches, with their own
Again regale them on some smiling day ?
See where the stony bottom of their town
Looks desolate and wild, with here and there
A helpless number, who the ruin'd state
Survive, lamenting, weak, cast out to death."

For Thomson's humane appeal he has been thus apostrophized by Dr. Evans :

"And thou, sweet Thomson, tremblingly alive
To pity's call has mourned the slaughter'd hive,
Cursing, with honest zeal, the coward hand
Which hid in night's dark veil the murd'rous brand,
In steam sulphurous wrapt the peaceful dome,
And bore the yellow spoil triumphant home."

Were we speaking of clams, lobsters, oysters or any of the lower orders of animated existence, these remarks might be regarded as mere sentimentalism, but the *bee* stands high in the scale of animal intelligence, and hence possesses an organism susceptible of pleasure or pain to an intense degree. Recognizing this fact, most of the great minds of the past have left on record eloquent tributes to the bee. She has furnished the political economist with models of government, the architect with plans for the strongest structures with the greatest economy of materials and space. The theologian has drawn on her for some of his best illustrations of design in nature to demonstrate the existence of an intelligent Creator. Aristotle the high priest of ancient philosophy, well acquainted with the habits of all animals known in his day, pronounced the bee a "magazine of the virtues," and Virgil, Rome's most gifted poet, pronounced her a "ray of the divinity." Modern investigators have instituted many experiments to ascertain the limits of bee-wisdom, yet in all of them she has shown herself equal to the occasion, and by her wonderful adaptation of means to ends, in the various positions she has been placed, convinced many that she really takes cognizance of cause and effect, exercises volition and does things so closely allied to human reason that the line of demarcation can scarcely be pointed out. Such being the character of the honey bee, I am not ashamed to espouse its cause and to ask the aid of this Association in suppressing the needless cruelties practiced upon it.

To accomplish this we do not, I think, need any additional legislation, but a vigorous enforcement of laws already in existence. Parents are by law compelled to educate their children and to treat them humanely. Sportsmen are compelled to refrain from shooting birds except at certain seasons of the year, and some species entirely. Fishermen are compelled to fish only until the season for spawning commences, so that the increase of fish be not interfered with, etc., etc. Twelve years ago the American Society for the Prevention of Cruelty to Animals was instituted and up to the present time has prosecuted and convicted 7,000 offenders and prevented the abuse of animals on 16,957 occasions. The provisions of the laws of this Society are ample to protect our little pets from the cruelty of their masters in not caring for them properly, or from consigning them to the brimstone pit.

These laws extend to every State in the Union except four, and the result is a very marked improvement in the treatment of all animals except bees, but for these the protection of the law has never yet been invoked. A prominent lawyer of Jersey City, an amateur bee-keeper, offers to prosecute any clear case of bee murder, free of charge in order to furnish doubtful bee-keepers a test case to inspire confidence in the efficiency of our laws, if enforced, to protect the bees from needless cruelty. Section 64 of the New Jersey law reads as follows :

"Any person who shall * * * torture, torment, deprive of necessary sustenance * * * or otherwise abuse, or needlessly mutilate or kill, or who shall cause or procure * * to be tortured, * * * any living animal or creature * * * shall be deemed guilty of a misdemeanor, and for every such offense shall, on conviction thereof, be punished by fine not exceeding $250, or by imprisonment in the county jail not exceeding six months, or both, in the discretion of the court."

For the purpose of more fully satisfying myself that the manner in which bees are so often treated, constitutes a crime within the meaning of the law, I wrote Mr. Henry Bergh, President of the Society for the Prevention of Cruelty to Animals, detailing the methods of treatment pursued by box-hive bee-keepers of needlessly exposing their bees to the severity of winter unprotected and often with insufficient stores, &c., &c., ending with their cruel death by brimstone. I received the following reply, together with a copy of the law relating to this subject :

Society for the Prevent'n of Cruelty to Animals, }
New York, Sept. 25th, 1879. }

Mr. A. J. King—Dear Sir :—Yours of the 24th inst. is received. The needless killing of bees by the method you describe, is not only cruel in the extreme, but is a violation of the laws of this State, which prohibit the needless killing of any animal, and infliction of unjustifiable physical pain and suffering. Not being freely conversant with the manner of treating the little busy bee, you will pardon my not entering into the discussion, but take great pleasure in sending you the laws with reference to their protection from cruelty and death.

HENRY BERGH.

A careful perusal of these laws fully confirms my previous convictions, and for the purpose of bringing the subject to the attention of this Association in a more tangible shape, I have transcribed a few of the many provisions of the law. The first reads :

"Every person who shall by his act or neglect, maliciously maim, poison, wound, injure, torture, starve, cruelly beat or kill any horse, mule, ox, cattle, sheep or other animal belonging to himself or another shall, upon conviction, be adjudged guilty of a misdemeanor."

Section 46 reads :

"Every person who shall be convicted of any misdemeanor, the punishment of which is not prescribed in this or some other statute, shall be punished by imprisonment in a county jail, not exceeding one year, or by fine not exceeding $250, or by both fine and imprisonment."

The notes following this section and also referring to other provisions of the law read as follows :

"The intent is assumed from the act itself. It need not be averred or proven. When an act is in itself illegal, the law presumes evil intention. 'It is a universal principle that when a man is charged with doing an act (that is, a wrongful act without any legal justification) of which the probable consequence may be highly injurious, the intention is an inference of law resulting from the doing of the act. And although he may have had another object in view, he must be taken to have intended that which is the natural consequence of the act. If he does an act which is illegal, it does not make it legal that he did it with some other object. That is not a legal excuse.' Express malice need not be proven in cases of cruelty to animals."

Section 37 reads :

> "In this act, and in every law passed, or which may be passed, relating to or affecting animals, the singular shall include the plural ; the words 'animal' or 'dumb animal' shall be held to include every living creature ; the words 'torture,' 'torment,' or 'cruelty,' shall be held to include every act, omission, or neglect whereby unjustifiable physical pain, suffering or death is caused or permitted ; and the words 'owner' and 'person' shall be held to include corporations as well as individuals. But nothing in this act shall be construed as prohibiting the shooting of birds or other animals for the purpose of human food."

The necessary steps to be taken in cases of prosecution are simple, and are plainly set forth in a little manual, which will be sent gratis by addressing Henry Bergh, Esq., New York City.

A vigorous enforcement of this law could not fail, we think, of the most happy results, both to the bees themselves and also to all worthy the name "bee-keeper." The results would be seen in the driving of large numbers either to adopt the modern, humane and profitable improvements or to quit the business, which they have hitherto disgraced. Strained honey and broken combs filled with pollen, honey, and brood intermingled, would no longer be seen, and the choice products of the scientific bee-keeper would advance in price, besides producing other good results which readily suggest themselves. In conclusion, I hope this Association will, by resolutions or otherwise, inaugurate some general plan of united action, looking to the suppression of existing cruelties practiced upon our little favorites, whereby they may enjoy the same immunity from suffering now extended to other animals less intelligent, less profitable and of less importance to the community.

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Nebraska Convention.

Adjourned meeting of the Nebraska Bee-Keepers' Association, met Oct. 8, 1879. President Craig in the chair.

The minutes of the last meeting were read and approved. Communications and reports were received, from G. M. Hawley, and James M. Hyme, together with an insect that the latter found destroying his bees.

President Craig reported as follows : In the spring, number of colonies 131 ; sold 11 ; got 72 swarms ; colonies on hand 188 ; took 500 lbs. of honey, with 200 lbs. yet to take ; 12 lbs. of wax ; uses the Langstroth hive.

Secretary Pigman reported as follows : I moved from Kansas last November and brought 24 colonies of bees by railroad. All came through safely with only two frames broken down. There were some dead bees in the hives. Wintered some in the cellar, others on their summer-stands ; it was too late for them to have a fly. As spring approached they dwindled terribly ; I could in no way stop the dwindling. I went through the hives repeatedly and cleaned them out and righted them up, putting on blankets, &c., but still they died until 20 was gone, leaving the hive heavy with honey. The 4 that did survive were so weak that it took the season to regain their strength, giving no swarms. I took 6 on shares. Number now on hand, 15 ; beeswax, 35 lbs.; have taken about $10.00 worth of honey. I should like to know more about the cause of the dwindling, also a remedy in such cases.

Motion made and carried that the Secretary forward the insect to Prof. Cook, of Lansing, Mich., and ask him to report what it is—its character as a bee destroyer.

After some further discussion the Association adjourned subject to call of the President. W. G. PIGMAN, *Sec.*

Hints to Beginners.

There are two classes of persons that will, and profitably may, engage in bee-keeping—those who begin the work with a view to make it their business, who make it their only, or at least their main occupation, and those who begin it not so much for the profits as for the sake of the recreation it affords. This latter class is by far the larger of the two, embracing the majority of our farmers and many professional men. We may add a third class, those who have heard of the profits realized from the business, and thinking it a most excellent way to get rich without any outlay, study, or work, madly rush into it with the idea that all they have to do is to market the honey and pocket the money. For these we write not, however; they had better never begin.

The first step one should take in this direction is to study bee literature. Study the physiology of the bee. Acquaint yourself with what others have done and are doing. Learn which are the most difficult points, as Italianizing, artificial swarming and the like, and master them. By having all this clear in the mind, you can begin with confidence and work intelligently. There will then be nothing mysterious about it, which, because not understood you must leave to chance and guess-work.

Next study the facilites you have for bee-keeping, your locality, your honey producing plants, your markets, and see what difficulties you will be likely to encounter. When all this is clear, you can start ; but do not begin on too extensive a scale ; half a dozen colonies are sufficient to begin with. If the enthusiasm is kept up and all goes well, their number can readily be increased.—*Moore's Rural.*

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☞ Baron Berlepsch, in several different experiments made to find out how many eggs are daily deposited by the queen bee, discovered that she laid 1,604 eggs in 24 hours, as the result of the first. In the second she deposited on an average 1,913 daily, for the space of 20 days. In the third one an average of 2,400 daily was found for the same length of time. In the fourth, she deposited 3,021 in 24 hours. She was seen by him to deposit 6 in one minute.

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We supply the AMERICAN BEE JOURNAL and any of the following periodicals at the prices quoted in the last column of figures. The first column gives the regular price of both.

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Our answer to all who ask credit is this: We sell on **small** margins, and cannot afford to take the risks of doing a credit business. If we did such a business, we should be obliged to add at least 10 to 20 per cent. more to our prices, to make up for those who would never pay, and to pay the expenses of keeping book-accounts with our customers—this we know our **Cash** customers would not think to their advantage.—This rule we must make general in order not to do injustice to any one. The cash system gives all the advantage to cash customers, while the credit system works to their injury. In justice to all we must therefore require **Cash with the order.**

☞ We ask attention to the card of *The Ohio Farmer* of Cleveland, O., in this issue of our paper and recommend it as one of the oldest and most valuable agricultural and family papers of the country. *

☞ No book can be more useful to horse-owners than one recently published by Dr. B. J. Kendall, Enosburgh Falls, Vt. The price being only 25 cents, all can afford it. Every one who sees it is very much pleased with it, as it has 35 fine engravings illustrating positions of sick horses, and treats all diseases in a plain and comprehensive manner. It has a large number of good recipes. a table of doses, and much other valuable horse information. The book can be had of the author as above, or at the AMERICAN BEE JOURNAL office, 972 and 974 West Madison St., Chicago.

Local Convention Directory.

1879. *Time and Place of Meeting.*

Dec. 9.—Northwestern Union, at St. Paul, Minn.
10.—Michigan State, at Jackson, Mich.
13.—Indiana State, at Indianapolis, Ind.
16, 17.—Northern Michigan, at Carson City, Mich.

1880.
Jan. 13.—N. W. Ill. & S. W. Wis., annual, at Davis, Ill.
Feb. 11—Northeastern, at Utica, N. Y.

☞ In order to have this Table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

Honey and Beeswax Market.

BUYERS' QUOTATIONS.

CHICAGO.

HONEY.—White clover, in single-comb sections, 16@18c.; when with more than one comb in a box, 2c. per lb. less. Dark, in the comb, no demand. Extracted, 7@9c.

BEESWAX.—Prime choice yellow, 20@22c; darker grades, 12½@15c.

NEW YORK.

HONEY.—Best white, in single-comb sections, 20@22c.; fair do., 17@19c.; buckwheat and dark, 14@16c. Larger boxes, 2c. per lb. less. Extracted, 9@12c.

BEESWAX.—Prime quality, 25c.

CINCINNATI.

HONEY.—White, in single-comb sections, 16@18c. Extracted, 8@9c.

SAN FRANCISCO.

HONEY.—Comb, 12½@15c.. Extracted, 8@10c. ℔ lb.

STEARNS & SMITH.

Worthy of Attention.—We advise all our readers, whether they own a foot of land or not, to supply themselves with that treasure of useful, practical, reliable information, the *American Agriculturist*, so named because started 38 years ago as a rural journal, but now enlarged to embrace a great variety of most useful reading for the Household, Children included, for the Garden, as well as the Farm—for all classes. Each volume gives some 800 original Engravings, with descriptions of labor-saving and labor-helping contrivances, of plants, fruits, flowers, animals, etc., including many large and pleasing, as well as instructive, pictures for young and old. The constant, systematic exposures of Humbugs and Swindling Schemes by the *Agriculturist* are of great value to every one, and will save to most persons many times its cost. Altogether, it is one of the most valuable, as well as the cheapest Journals, anywhere to be found. The cost is only $1.50 a year, or 4 copies for $5. Single numbers 15 cents. Subscribe at once for 1880, and receive the rest of this year free, or send 3-cent stamp for postage on a specimen copy. Address Orange Judd Company, 245 Broadway, N. Y.

75c, pays for the Bee-Keepers' Magazine. Fruit Recorder, Rural Life, Scribner's Monthly, and a large list of periodicals at reduced rates. E. H. WYNKOOP, Catskill, N. Y.

1865.— THE —1879.

HONEY HOUSE.

C. O. PERRINE, 54 Michigan Ave., Chicago.

Will buy at a fair price, for cash, any amount of

COMB OR EXTRACTED HONEY.

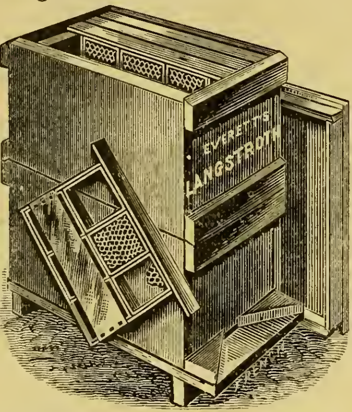
As a Manufacturer of

COMB FOUNDATION,

I can say my goods have given entire and universal satisfaction. The ruling low prices were made by me, and any one desiring any considerable quantity would do well to consult me before buying elsewhere.
☞ Market price for Beeswax.

16 page Illustrated Circular Sent Free.

Honey Extractors and Hives a Specialty.



Apiarian Supplies, Italian Bees, &c., &c.

EVERETT BROS., 107 Monroe St., Toledo, Ohio.

Baker & Co. DESIGNERS AND PHOTO ENGRAVERS ON WOOD.
COR. CLARK & MONROE STS. CHICAGO.
DEALERS IN ENGRAVING TOOLS & ENGRAVERS OUTFITS.
ORDERS BY MAIL SOLICITED.

Italian Queen Bees

FOR 1879.

I shall breed Italian Queens for the coming season, from imported mothers of undoubted purity. Safe arrival and purity guaranteed in every shipment. Prices very low. Circulars sent free. Address,
D. P. MYERS,
aply1 West Salem, Wayne Co., Ohio.

BOKHARA CLOVER SEED.

We have received a lot of Imported Bokhara Clover Seed, which we can sell at 50 cents per lb. If sent by mail, 70 cents per lb.
THOMAS G. NEWMAN & SON, Chicago, Ill.

ITALIAN QUEENS—All bred from Imported Mothers of my own importation. Dollar and Tested Queens from 1st April to 1st November. Full Colonies and Nuclei ; Bee-Keepers Supplies of all kinds ; Comb Foundation. etc.
6-tf PAUL L. VIALLON, Bayou Goula, La.

FORTIETH YEAR.

THE

PRAIRIE FARMER!

FOR 1880.

The Leading American Agricultural and Household Weekly,

For Town and Country,
For Old and Young.

(ESTABLISHED 1841.)

The PRAIRIE FARMER, now in its Thirty-ninth year, is the leading Agricultural and Household weekly of America, and acknowledged authority throughout the United States and Canadas upon topics of Agriculture, Horticulture, Stock-raising, etc.

Being published WEEKLY, the more progressive facts in practical Agriculture and Agricultural Science are grasped by an efficient editorial corps and promptly placed before its readers in the most attractive and readable form.

THE AIM OF THE PUBLISHERS

Will be in the future, as in the past, to make every department full and complete so far as practical talent can accomplish the end—that of making the **PRAIRIE FARMER** the best **Agricultural** and **Home Journal** in America.

Terms, **$2.00** per year in advance.

Specimen copy free to any address by mail, or may be obtained from canvassing agents.

PRAIRIE FARMER CO.,
CHICAGO, ILL.

Farmers' Home Journal,

LOUISVILLE, KY.

Is a weekly paper, devoted to the agricultural and live stock interests of Kentucky and the Southwest. It has special departments upon Tobacco, Fruits, Cattle, Sheep, Horses, Hogs, Bees, Poultry, and the Culture and Improvement of the Soil, for all kinds of grain, grasses, vegetables, and other crops suited to this section of the country.

The **FARMERS' HOME JOURNAL** now has an extended circulation of many thousand among the farmers of Kentucky and the Southern States, and is a good medium for advertising every kind of goods and supplies wanted on farms and in families. Subscription, **$1.50** a year. Send for specimen copy by addressing

FARMERS' HOME JOURNAL,
LOUISVILLE, KY.

Friends, if you are in any way interested in

BEES OR HONEY

We will with pleasure send you a sample copy of our

Monthly Gleanings in Bee-Culture,

with a descriptive price-list of the latest improvements in **Hives**, **Honey Extractors**, **Artificial Comb**, **Section Honey Boxes**, all books and journals, and everything pertaining to Bee Culture. *Nothing Patented.* Simply send your address on a postal card, *written plainly*, to A. I. ROOT, Medina, O.

One Agent sold SEVENTY-SIX Heliographs during week ending September 20th.

THE

HELIOGRAPH!

A new and remarkable invention for the reproduction of letters, plans, notices, circulars, etc., from the original, at one-fourth the expense of any other process. This instrument is admirably adapted for the use of teachers, lawyers, bankers, merchants and business men generally, for it is so simple that any one can operate it, and so cheap that all can afford to buy it. ONE HUNDRED IMPRESSIONS IN FIVE MINUTES.

Prices.—4x6 (Postal card), $1.75; 7x10 (note paper), $2.50; 10x12 (letter paper), $3.50; 12x14 (foolscap), $4.50.

Send for sample prints and circular. AGENTS WANTED.

HELIOGRAPH & TABLET CO.,
70 Metropolitan Block, Chicago,

ATTENTION FARMERS!

Send for a free Specimen copy of

THE OHIO FARMER.

(Established 1848.)

The Oldest, Largest, Most Enterprising, Instructive and Valuable Agricultural, Live Stock and Family Journal in America.

It is a 64-Column Weekly Paper,

Acknowledged authority on all Agricultural Topics, and leads the van of American Agricultural Journalism. Has the largest and ablest corps of regular contributors ever employed on an agricultural paper, under an able and experienced Editorial Management, who spare no expense or labor to add everything possible to its value.

SUBSCRIPTION TERMS REDUCED for 1880.

PAYABLE IN ADVANCE.

One Year, 52 Issues, - $1.50

Making it the cheapest first-class Agricultural Weekly in the country.

Liberal Premiums or Cash Commissions to Club Agents.

☞ Specimen copies sent free. Address

THE OHIO FARMER,
CLEVELAND, O.

Christmas and New Year.—Every reader of this should send for a Specimen Copy and Premium List of

TRIFET'S MONTHLY,

(a 32-column, 8-page journal of Literature, Science, Arts, Stamp Collecting, etc.), and ascertain how to get Christmas and New Year Cards, Embossed Pictures, Floral Panels, Surprise Bouquets, Magnificent Chromos, Foreign Stamps, Coin Catalogues, &c., Miniature Theatres, Mechanical Orguinettes, etc., **Free of Cost.** This is the cheapest monthly publication in the country. *Agents Wanted.* Address, with 3-cent stamp for postage,

F. TRIFET, 61 Court St., Boston, Mass.

THE INDEPENDENT.

THE INDEPENDENT appeals to cultivated men and women. It discusses current questions of religion, philosophy and politics. It is wide-awake. It is not afraid. It sets people to thinking. It welcomes fresh truth. It has numerous departments. Publishes more religious discussion than the religious reviews, more poetry and stories than the popular monthlies, and gives more information than an annual cyclopædia. It has a larger corps of the most famous writers than any other journal of any sort in the country. It makes strong friends of those who read it. TRY IT FOR NEXT YEAR.

We have purchased the newspaper copyright of the Boston Monday Lectures for 1879–1880, to be delivered, as heretofore, by the REV. JOSEPH COOK, beginning Nov. 3d, and the same will be given *verbatim* to the readers of THE INDEPENDENT weekly, together with the Preludes, after revision by the author.

Sermons by Eminent Clergymen

in all parts of the country will continue to be printed.

PREMIUMS.

☞ We have decided to withdraw on the 31st of December, 1879, all the premiums now offered by us to subscribers, a full list of which appears below; so that those who would avail themselves of our liberal offers must do so before December 31st 1879.

WORCESTER'S UNABRIDGED

PICTORIAL QUARTO DICTIONARY.

Bound in Sheep. 1854 *pages. Over* 1000 *Illustrations. Issue of* 1879.

Our contract with the publishers of the Dictionary expires Dec. 31st 1879, and Messrs. J, B. Lippincott & Co. absolutely refuse to continue the contract beyond that date on the same favorable terms. We are therefore, compelled to withdraw the Dictionary premium at the expiration of the present year; but we purposely give ample notice, so that our subscribers and the public in general may avail themselves of the surprisingly low terms to get the Dictionary, in connection with THE INDEPENDENT. We will send this Dictionary to any person who will send us the names of 3 New Subscribers and $9.00; or who will, on renewing his own subscription, in advance, send us 2 New Names additional and $9.00; or who will renew his own subscription for 3 years, in advance, and send us $9.00; or, for a new subscriber for 3 years and $9.00.

The regular price of the Dictionary alone at all the book-stores is $10.00, while the lowest price of 3 subscriptions is $9.00. Both the Dictionary and the 3 subscriptions, under this extraordinary offer, can, therefore, be had together for only $9.00.

The REV. JOSEPH COOK'S BOOKS,

entitled "BIOLOGY," "TRANSCENDENTALISM," "ORTHODOXY," "CONSCIENCE," "HEREDITY," and "MARRIAGE," embodying the author's previous remarkable Monday Lectures. They are published in handsome book form by James R. Osgood & Co., of Boston. We will mail a copy of either volume, postpaid to any subscriber to THE INDEPENDENT who remits us **$3.00** for a year in advance; or any subscriber may remit **$5.50** and we will send him THE INDEPENDENT for 2 years in advance, and two volumes, postpaid; or any three volumes, postpaid, to any one subscriber who remits **$8,00** for 3 years in advance.

Subscription Price $3.00 per annum in advance, including any one of the following Premiums:

Any one volume of the Household Edition of Charles Dickens' Works, bound in cloth, with 16 illustrations each, By Sol. Eytinge.

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Authors of the United States. Fine large Steel Engraving. 44 Portraits. By Ritchie. Size, 24x38½.

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Grant or Wilson. " " " "
Edwin M. Stanton. " " " "

The Inner Life of Abraham Lincoln. By Frank B. Carpenter. Bound in Cloth. 360 pages.

We offer one Premium only for one year's subscription.

Subscription Price $3. per Year, in Advance.

☞ Specimen copies sent free.

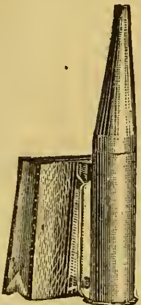
Address **THE INDEPENDENT,**
P-O. Box **2787,** **New York City.**

☞ Cut out this Advertisement.

SOMETHING OLD!

OLDEST AND BEST!

The old, reliable, original, direct-draft Smoker.



This Smoker is so perfect that it has never been improved. The more exact the copy the better the Smoker and the plainer the infringement. Beware of all new direct-draft Smokers — Bingham owns all there is of value in them. Every seller and user is liable. Our Smoker has been in use two years longer than any bellows Smoker now made. If you want the best Smoker and no further expense, buy only the Bingham. If you want to encourage invention and not theft, buy only the Bingham.

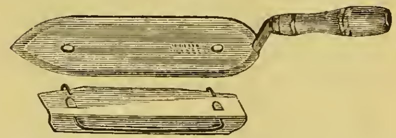
Standard size, 2-inch...........	$1 50
Little Wonder, 1¾-inch........	1 00
Extra large, 2½-inch...........	1 75

Sent free, per mail, on receipt of price. A discount of 12 per cent. made from retail rates on all smokers sent by express with or without one or more Bingham & Hetherington patent Honey Knives.

Address, **T. F. BINGHAM,** Otsego, Mich.

Bingham & Hetherington

HONEY KNIVES!

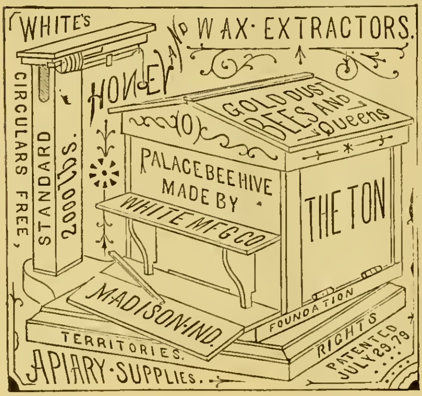


Are used plain, if the combs are held upright, and with the cap-catcher, if laid on a table. They are not *like any other* honey knife ever made. They are superior in finish and temper, and do much more and better work. *No one can afford to be without one.* Plain, $1.00; with movable cap-catcher, $1.25. Send for Circular for dozen rates for Knives and Bingham Smokers to BINGHAM & HETHERINGTON,
Otsego, Allegan Co., Mich.

SPECIAL RATES.

BINGHAM & HETHERINGTON have made arrangements with the American Express Company at Otsego, to carry honey knives over their routes and either one of the other Express routes named below at 18 cents per knife, in single packages. This arrangement, it will be seen, will carry knives to all places where one of the Express Companies mentioned is located: American, Adams, United States, National, Union, Central, New Jersey, Delaware, Lackawana and Western. Address,

BINGHAM & HETHERINGTON,
Otsego, Mich.


WHITE'S
HONEY
WAX · EXTRACTORS.
GOLD DUST
BEES AND
QUEENS
PALACE BEE HIVE
MADE BY
WHITE MF'G CO.
THE TON
STANDARD
2000 lbs.
CIRCULARS FREE,
MADISON·IND.
FOUNDATION
TERRITORIES
RIGHTS
PATENTED JULY 29.'79
APIARY·SUPPLIES.

Bee-Keepers' Supplies!

I shall continue to sell, at reasonable rates, a large variety of Bee-Keepers' Supplies, such as

MUTH'S ALL-METAL HONEY EXTRACTOR,

UNCAPPING KNIVES,

WAX EXTRACTORS,

LANGSTROTH BEE HIVES,

SECTIONAL BOXES,

SQUARE GLASS HONEY JARS,

to hold one and two pounds each, with Corks, Tinfoil, Caps and Labels, ½ lb. Tumblers, Glass Fruit Jars, &c.

COMB FOUNDATION,

BEESWAX, GLOVES, VEILS, STRAW MATS, ALSIKE CLOVER SEED,

as well as a great assortment of Garden and Field Seeds, &c. For further particulars address,

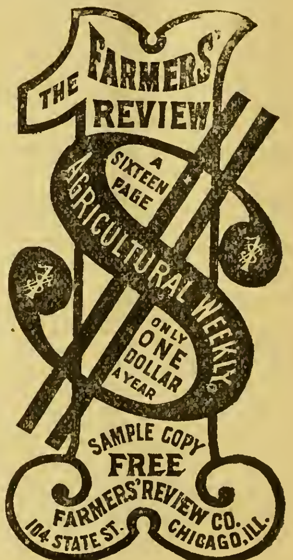
CHAS. F. MUTH,

2-tf 976 and 978 Central Ave., Cincinnati, Ohio.

PURDY'S RECORDER

Best paper on fruit and flowers. Specimen **free.** *Speaks for itself.* Address PURDY, of Palmyra, N. Y.

No Club Rates. Everybody gets it for a Dollar. Subscription Agents wanted. Easiest paper to canvass for in the world. If you want a specimen copy before subscribing, send for it. Tell all your neighbors about the great Dollar Weekly Agricultural Paper. It has no equal. Present circulation 50,000 copies.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AGRICULTURAL WEEKLY
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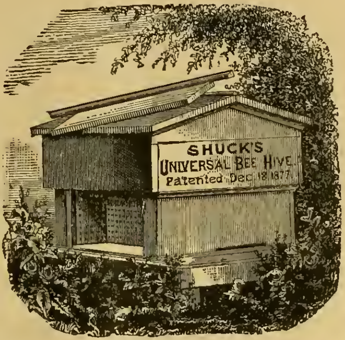
CHICAGO, ILL.

SHUCK'S UNIVERSAL BEE HIVE.



Claims the Attention of every one engaged or interested in Bees.

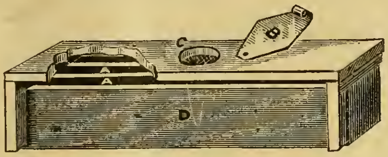
THE HIVE

Is devised by a practical bee-keeper for PROFITABLE use; double walls, with either dead air space or chaff packing; inside walls are porous, allowing all moisture to escape from the brood chamber, keeping it perfectly dry, sweet and wholesome, even with unsealed stores; both sides are removable; frames hung upon metal supports on the top of the end walls (not in rabbets) and are easily handled; brood chamber large or small, as desired, and may be as complete with one frame as with a dozen; space for 96 pounds surplus honey within six inches of the brood nest. No colony need be lost during the winter months in this hive. No melting combs in this hive during the hot weather. Positively

THE BEST HIVE BEFORE THE PUBLIC.

APIARY RIGHTS, $5.00. TERRITORIAL RIGHTS FOR SALE ON EASY TERMS.

SHUCK'S BOSS BEE FEEDER,



Patented June 11, 1878,

Removes all the obstacles in the way of feeding, by its simplicity, cheapness, and its adaptability to the purposes required. It is to be placed at the entrance outside the hive, and supplied with sugar syrup, or syrup and flour any time in the day, without annoyance from bees, either to the bee-keeper or the colony being fed; no bees can reach the food except from the inside of the hive. Every bee-keeper appreciates the advantage of feeding to supply short stores for the colony, or to stimulate and encourage breeding, previous to an expected flow of honey.

Prof. A. J. Cook says: "I think very highly of your feeder, and only find fault with the price."

G. M. Doolittle says: "You are just a shouting when you say, 'I trust my Boss Bee Feeder will please you.' It is the best bee-feeder I ever saw, in ease of feeding, simplicity and for general use. When I see a good thing I like to say so. It is worth no less because it is patented."

D. D. Palmer says: "I received your Boss Bee Feeder and would say of it, that I like it better than any I ever saw; in fact, it seems to be all that could be desired. It is all you claim for it, being so convenient to get at, and being so readily filled without disturbing the bees or being to the trouble of taking off the cover."

SAMPLE, BY MAIL, 30 CENTS.

Address, J. M. SHUCK,
DES MOINES, IOWA.

IMPLEMENTS OF THE APIARY.

For full list of Apiarian Supplies, see our Catalogue, which will be sent free upon application.

COMB FOUNDATION.

We have **reduced** our prices for Comb Foundation, as follows :

Sample by mail	10c.
1 lb, by mail	75c.

WHEN SENT BY EXPRESS.

Size of Sheets 12x18 *or* 8x16½ *inches.*

1 to 5 lbs., per lb	47c.
5 " 25 " "	46c.
25 " 50 " "	45c.
50 " 100 " "	44c.
100 lbs. or more, per lb	43c.

Wired Comb Foundation.

This positively prevents sagging, making all combs very strong and durable. It has flat-bottomed cells, exceedingly thin and even, the wire being incorporated into it by a new process. It is for use only in the breeding apartment.

(Size, 8½x16½ and 11¾x12 inches.)

1 to 25 lbs., per lb	70c.
25 to 50 " "	68c.
50 to 100 " "	67c.
100 to 500 " "	65c.
500 lbs. and over, per lb	63c.

NEW LANGSTROTH BEE HIVE.

SAMPLE HIVE—*nailed, not painted.*

No. 1.—Brood Chamber, 10 frames, portico, 7⅛ inch cap—but no surplus arrangement	$2 00
No. 2.—Same as No. 1, with Comb-Honey Rack, complete	3 00
No. 3.—Same as No. 1, but having 20 frames, and Comb-Honey Rack—complete 3-story hive	3 75
No. 4.—Brood Chamber, 10 frames, and 7-inch story, with 7 cases containing Prize Boxes and tin Separators, for surplus Honey, with 2-inch cap	3 00
No. 5.—Same as No. 4—but having 10 extra frames—a complete 3-story hive	3 75
No. 6.—Brood Chamber, with 10 extra frames, for extracting, and 2-inch cap	3 00

MATERIAL—*cut, ready to nail.*

(14⅛x18⅜ inches inside.)

	One story.	Two story.
In lots of 5 each	No. 1, $1.25	No. 6, $1.80
" 10 "	" 1.20	" 1.70
" 25 "	" 1.10	" 1.60
" 50 "	" 1.05	" 1.55
" 100 "	" 1.00	" 1.50

Material for Langstroth Frames.

Cut, ready to nail—(9⅛x17⅝ inches, outside).

100 frames	$1 50	1,000 frames	$14 00
5,000 or more frames, per 1,000	12 00		

REGISTERING SLATES.

Size, 3x4 inches, with a hole in the centre of the top, for hanging them on the hive by a nail. Price, $1.50 for 50; $2.50 for 100. They must be sent by express or freight. Sample by mail and postage, 10 cents.

GUMMED HONEY LABELS,

For Honey Jars, with blanks in which to write your name and address, 50c. per 100.

Same, with your name and address printed, 1000 for $5 — 500 for $3.

For Honey Boxes or Large Cans, with blanks in which to write your name and address, 75c. per 100.

Same, with your name and address printed, 1000 for $6 — 500 for $3.50.

Ungummed large Labels for Crates, with blanks for names, weights, &c., 75c. per 100.

HONEY EXTRACTORS.

The Excelsior, No. 1.—For 2 Langstroth frames 10x18 inches	$8 00
Ditto No. 2.—For 2 American frames, 13x13	8 00
Ditto No. 3.—For 2 frames, 13x20 or less	12 00
Ditto No. 4.—For 3 " " "	12 00
Ditto No. 5.—For 4 " " "	14 00
Muth's—for any size frame	12 00
Everett's	10 00 to 14 00
Murphy's	13 00 to 15 00
Chapman's	10 00
White's	10 00 to 15 00
Novice's	7 50 to 9 00
Peabody's—for any size frame	10 00
Hill's Gas-Pipe Extractor	6 50 to 7 00

BEE FEEDERS.

Shuck's Feeder may be placed at the entrance of the hive. Price, by mail	30c.
Novice's Simplicity Bee-Feeder, by mail	10c.
Kretchmer's Feeder, by mail	35c.
Van Deusen Bee-Feeder, by mail	75c.
Dunham Feeder, to hang in the hive	75c.

BEE SMOKERS.

Bingham's Patent Smoker, by mail,	$1 00	$1 50	$1 75
The New Quinby Smoker, "		1 50	1 75
Sutliff's Smoker, "			2 00
Alley's Smoker, to be held in the mouth, by mail.			.50

HONEY KNIVES.

Bingham & Hetherington's	$1 00
Ditto with detachable cap-catcher	1 25
Scofield's, Novice's, Murphy's, Chapman's or Peabody's, each	1 00
Muth's	50

MISCELLANEOUS.

Honey Gates	75
Novice's Iron Blocks, for frame making	25
Queen Registering Cards, per doz	10
Bee Veils—Complete face protection	75
Scissors for clipping Queen's Wings	50
Novice's Metal Corners, per 100	1 00
Kretchmer's Metal Bearings, per 100, by mail	15
Wire Cloth for extractor, tinned, per square foot	15
" " " Queen Cages, " " "	12
" " painted, —14 mesh to 1 inch	10
Gearing for Honey Extractors	2 00
Printed Envelopes, containing card of the BEE JOURNAL, as well as the address of the Honey Producer—100 for 50c.; 250 for $1.00; 500 for $1.75; 1000 for	3 00
Glass for Prize Crates, 3½x16½ inches, per 100 lights, boxed	3 50
Glass for Prize Boxes, 5x6 inches, per box, 240 lights, boxed	3 00
Comb Foundation Machines, of any make, at manufacturers' prices.	
Wax Extractor	3 50
" " with Copper-bottomed Boiler	5 00
Atomizers, for spraying or sprinkling queens, bees, brood and comb	1 00
Long Rubber Gloves, per pair	2 00

[To ascertain the size required, lay the open hand palm down, on a sheet of paper, and mark around both hand and fingers with a pencil.]

Electrotype Cuts of any of the Extractors or Bee Hives, for illustrating circulars, pamphlets, and for advertising, by mail, post-paid, each	$1 00
Queen cuts (three different styles) each. .75c &	1 00
Italian or black workers, or drones, each	75

We can furnish Emerson's Binders, gilt lettered on the back, for THE AMERICAN BEE JOURNAL, at the following prices, postage paid:

Cloth and paper, each	.50
Leather and Cloth	.75

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